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# SOAP and SANITARY CHEMICALS

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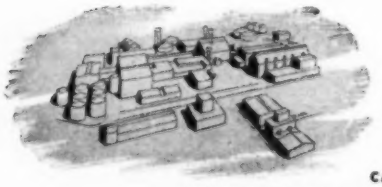

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# AS THE EDITOR SEES IT

TOO many new soap products are coming on the market these days. At the recent convention of the super-market people in Chicago, protests against the mounting duplication of food and soap products and the problems which they present for retail store operators were expressed in strong language. The merchandising judgment of both soapers and some food producers was questioned. With the number of brands growing daily, the retailer finds himself faced with a steadily expanding inventory without a proportionate increase in sales, according to the super-market operators. Retail sales volume is merely divided among a larger and ever larger number of items. And they contend, the need and economic justification for these new products, specifically new soap products, is just about nil.

From the viewpoint of the retailer, these protests may be justified. But, we feel, they reveal that he does not appreciate what has been going on in the soap industry in recent years and is still going on. While there has been progress in retail merchandising, it would appear that the retailer assumes there has been none in soap and detergent manufacture. But the soap industry has not been static. Progress has been rapid and in some instances almost revolutionary during the past five years. The chemistry of detergency has made great strides forward. Many new things have been developed. That they would eventually find their way into retail channels as small-package products has been inevitable. Granted that there has been some duplication, but just who is to decide in this alleged free economy of ours which companies shall *not* put out new products to exploit their research findings?

Before any retail group permits its resentment against the soap manufacturer to crystallize into action, let them look more deeply into the matter than the shelves of their stores. Let them find out why there are now twenty brands instead of the ten of yesterday. Let them examine the degree and kind of progress in soap and detergent manufacture. This, we feel, will aid greatly in giving them the answer to their "economic justification" question in the matter of new soap products. Although we well appreciate the force of national advertising and ensuing consumer demand, there is still no law which compels retailers to stock every new product offered them. But neither is there good reason why progress in the development of new detergent products must cease because it is temporarily inconvenient to the merchant.

IN VIEW of the difficulties which grew directly out of the heavy allocations of fats and oils for export in the fourth quarter of 1947, reports from Washington that 1948 first quarter allocations will be substantially less are no surprise. After the nag has been pilfered, the stable door is to be locked and barred. The neat beating which oil and fat consumers took as a result of market gyrations resulting mainly from too heavy export allocations may be charged in the ledger to experience. That large industrial soap users have tended to cut their needs to the bone, have bought only from hand to mouth, and have substituted products other than soap wherever possible are interesting sidelights. For those few who happened to be well covered when the allocation figures were announced, we must express deep admiration. Their insight into the future of the market was almost uncanny.

If fat and oil controls are extended beyond next March first,—and Washington opinion assumes that they will be extended,—their effect on the market is quite obvious. Pressure by crushers, refiners, and growers to keep domestic prices up via large exports is bound to be more or less constant. If fat, oil and soap users fail to keep their side of the picture in prominent evidence, they are likely to continue paying through the nose. Not that we would like to see three-cent tallow and coconut oil again, but neither do we feel that a twenty-five cent level

can be anything but harmful both to producers and soap manufacturers. As long as we have controls of any sort, the market will continue to sit on a powder keg wherein millions of dollars in speculative profits or losses are encased.

WHEN the average consumer notes the prices at which soaps are selling today, little doubt exists that most soap makers are literally coining money. High prices and big profits! Don't they always go hand in hand? The fact that the cost of manufacturing a piece of soap today is just about four times as great as it was ten years ago is probably little known outside of the industry. That the profits of the average soap manufacturer have declined sharply in 1947 compared to recent years has likewise not been too widely publicized thus far, —nor the fact that staggering inventory losses are being written off.

Having read and discussed "The Hucksters," the public long ago concluded that all soap makers, large or small, must be rich and prosperous. When soap chips retail at what appear to be fabulous prices at the corner grocer, the product and the manufacturer are mentally damned by the purchaser. Never the bird who tied tallow to the tail of a skyrocket. Never government-in-business! In short, we have a feeling that the public knows little or nothing about why soap prices are flirting with the clouds.

AS THE Federal Trade Commission moves in on one industry after another to clean up advertising claims and other practices which it apparently believes overstep the law, we have received an anonymous whisper that its top talent is preparing to give the soap industry a going over. Whether this will take the form of alighting hawk-like on one manufacturer or as an invitation to organize an industry trade practice conference, we do not know. Recent experience indicates that it might be either. If the Commission feels that it has a good chance to nail one of the leading soapers to the mast in a court case, we have a hunch that this will be the procedure followed.

Over the years, good old FTC has always showed that it prefers to ring up victories in court. What with all the newspaper publicity, who would expect it to be otherwise? And the bigger the fish, the bigger the splash. Furthermore, a feeling exists that oldtimers at FTC have never forgiven the soap industry for loss of the castile soap case even though that was twenty years ago. But, at least, if they descend upon one of the larger soapers, they are liable to find a worthy opponent,—as they apparently have in the Fitch case. For some years, it seemed that they used their big guns shooting at small fry. Times appear to have changed. A leading soaper could very well be their next important target.

FROM Germany comes word that the operators of the well-known Henkel soap manufacturing plant at Duesseldorf have organized a program of publicity to have its plant removed from the list of factories scheduled to be dismantled and removed as war reparations. Appeals directed to the Allied Military Government in the form of booklets point out that Germans today are receiving only about half as much soap products as were rationed to them during the war. Removal of the Henkel plant would eliminate any chance of increasing this meagre allotment of soap, they state, and then go on to ask whether it would be cheaper for the Military Government to aid an increase in the allocation of soap or to fight disease epidemics.

No mention is made in the news release as to just where the equipment from the Henkel plant is to be shipped. But, irrespective of the destination of the machinery which is undoubtedly to some allied nation short of soap-making equipment, it does seem shortsighted. Prior to the war, German soap consumption was about twenty-two pounds per capita. Ample soap is essential to their normal economy. If the people are ever to be put back on their feet so that they can sustain themselves again and remove the bulk of the burden from American shoulders, we cannot see how the removal of this plant can do other than react to American detriment. Although we are viewing the situation from a distance and without too many details, we fail to see how this dismantling at the present time can be considered an economic or sensible move.

# SOAPS in the Sanitary Chemicals Supply Field

**By E. G. Thomssen***

ALTHOUGH the quantity of soaps used in the sanitary supply field is considerable, it is still a small figure when compared with the large volume market of the segment of the soap industry catering to household and toilet soaps. Soaps for the sanitary supply field are for the most part supplied by smaller operators because these types of soaps require a smaller outlay of equipment and machinery and less complicated production procedures. The total tonnage of soap being used in the sanitary chemicals industry, however, is constantly increasing and it is important that the small soaper have a better conception of the types of soaps so used, their make-up, manner of production and application.

A quarter of a century ago, the sanitary supply soap business used mostly such soap products as were readily available. Thus the towel supply companies furnished almost entirely hotel size cake soaps for wash rooms in conjunction with their service. Floors in public buildings were most generally cleaned with a soap powder built with soda ash which could be purchased cheaply and readily. These methods of using soap products in public wash rooms and for cleaning floors of industrial and public buildings were proven to be unsanitary, extravagant and harmful to floor coverings and finishes. As a result, sanitary supply dealers found it necessary to demand soaps specifically designed for their trade. The wisdom of this attitude is reflected by the constantly increasing tonnage of soaps consumed by the industry.

In a paper such as this, it is not feasible to enter exhaustively into the technical details of manufacture and properties of the soaps used in this field. It is our purpose rather to point out some generalities that are of interest. Some of the remarks may be elementary to some, yet overlooked by others, especially those who do not make the soaps they sell.

Among the types of soaps sold by sanitary supply firms are solid soaps, jelly, pasty or soft soaps, and liquid soaps. One characteristic of this industry is that it demands a greater proportion of potash soap than is used in other directions. To make our discussion more definite, let us consider sanitary supply soaps according to these forms or states, that is, as solid, paste and liquid soaps.

The solid soaps, though still used to some extent in bar or dense form, are employed generally in powdered or granulated form. They consist mainly of full boiled soaps and cannot be manufactured without the installation of a considerable amount of equipment. As a result, they are usually purchased in bulk for further processing. For use in powdered soap dispensers, a ground toilet soap base with good lathering power is to be preferred. Since workmen and office employees often judge the efficacy of these soaps solely by the amount of lather, it is well to insist upon at least a 15 per cent coconut oil content in the fat charge. Some suppliers find their soaps are better received if they contain a higher percentage of coconut oil. Hand soaps, according to the use to which they are put, must carry a rather high amount of ingredients other than soap. For meeting costs and imparting free-flowing properties, talc, bentonite, or other mineral earths are added; in making soluble cleansers and water softeners, borax, phosphates, silicates and modified sodas are used; for abrasive cleaning, pumice, silica, corn meal, ground bagasse and sawdust are favorable additions. These cut down the lather so the importance of including a free-lathering soap is evident.

Granular soap is used in many hand dishwashing compounds. It is not necessary to use as good a grade of soap for dishwashing products as for hand soaps. In these compounds, as well as for certain other powdered cleansing compounds, it is of decided advantage to employ spray dried, built soaps. The spray dried products, at times called beads, uniformly incorporate some of the builders used in dishwashing compounds for they are pumped to the spray tower as homogeneous fluids. By giving more bulk to the finished product they increase sales appeal.

Scrub soap, more properly

* Before the Nat. Assn. Insecticide & Disinfectant Mfgrs., Dec. 3, 1947, Baltimore.

called floor scrub soap, represents a considerable part of many sanitary supply dealers' business. As manufacture entails no great amount of soap-making equipment, those who sell floor scrub soaps in volume often make their own soaps. They fall into the class of jelly, paste or soft potash soaps. It is also true that some scrub soaps are offered in powdered form. Scrub soaps enjoy popularity because they are economical and efficient. In floor sanitation, it is important that the soap clean the floor thoroughly and economically without impairing its appearance or the material from which it is constructed. The materials and finishes of floors are in great variety and are expensive. We find wood, tile, linoleum or cork, rubber, asphalt and mastic tiles, magnesite composition, concrete, terra cotta marble and other materials used. These floors are painted, varnished, waxed and left in natural finish. A combination of these finishes on a single floor makes proper cleaning even more complex when one takes into account the composition of the grime, grease and other dirt that must be removed without harming those materials or finishes. To accomplish a satisfactory job various types of scrub soaps are offered.

The best general scrub soap has been found to be one made from vegetable oil fatty acids neutralized entirely with caustic potash. The fatty acids most generally used are soybean oil, corn oil and cottonseed oil because these are most readily available. The smaller manufacturers have adopted fatty acids because these are easier to handle than the neutral oil and in war times their use became mandatory because of the regulations regarding glycerine recovery. Scrub soaps may be made from the oils as well, but this process entails a greater amount of time for saponification and the liberated glycerine is included in the soap. While the use of neutral oils may not be an economic feature at the moment, far-seeing manufacturers are considering the economies that may be afforded in freight savings where the oils are to be had more cheaply than the fatty acids. The present high price of glycerine may not continue to hold and we may again see the day when it is cheaper to leave the glycerine in the soap than recover it by saponification and distillation methods for fatty acid production.

The explanation is often advanced that linseed soaps leave a thin protective covering on floor covering. If this is actually the case, then linseed oil would seem to recommend itself particularly for use in floor scrub soaps because of its admittedly exceptional film-forming characteristics. And, following this theory still further, what would seem to be more logical than that linseed oil soaps would be particularly well suited for use on linoleum, which is itself composed largely of linseed oil? Many soap chemists might well question this whole story of deposit of a residual film, but the idea seems at least plausible and is accepted in some quarters. Hospitals, too, buy linseed oil soaps as "Sapo Mollis." Federal Specification P-S-603 specifically covers liquid and paste linseed oil soaps. Oleic acid produced in stearic acid manufacture, tallow fatty acids and cotton seed foots, which often are foul-smelling, are used to produce scrub soaps. These are usually opaque rather than translucent and comparatively cheap in price. More recently, wax scrub soaps have appeared on the market. These are opaque, pasty soaps with a sheen or silky lustre, probably induced by free stearic acid or free wax. The sales point made for these soaps is that they leave a coating of wax on the floor after use. While we have not seen any specific data as to the amount of wax thus left, it is to be doubted that the amount would be large enough to be very durable since the wax content of the wash water containing the soap is very small.

PINE scrub soaps have been very popular with soap users for many years. They consist of an ordinary scrub soap of about 15 per cent soap content to which is added up to 3 per cent of distilled pine oil. This gives the soap a clean, pleasant odor and causes the soap to congeal. As pine oil is a good solvent, it also is efficacious in removing grease. This very solvent action may also be dangerous in that it may adversely affect certain finishes and may dissolve asphalt or rubber tile floors. Because of its clean odor, pine scrub soap is at times added to other soaps.

Scrub soaps are also produced in liquid form. Where carrying charges on water are not a factor, it is more convenient to use liquid scrub soaps than the jelly soaps. It is naturally easier for the maintenance man to add liquid soaps to water than to dissolve a jelly or paste. The difference between liquid soaps and jelly soaps, as may be implied, is the greater water content.

Before leaving the subject of scrub soaps, a few comments regarding their properties and composition are appropriate. Scrub soaps should be mild in action, dissolve readily in lukewarm water, rinse off readily and cleanly, produce good suds even in hard water, should not damage floor surfaces and should not leave behind an unpleasant odor. While the indus-

***Pine oil soaps are good for removing grease, but their solvent action may adversely affect asphalt or rubber tile finishes***

try does not generally purchase upon specifications, it seems that it might improve its position by setting up a set of standards so that users, as is often the case, may not be misled by such tactics as pointing out other qualities of the soap rather than the actual cleaning power or anhydrous soap content. Such procedures do not make for long term good will.

As was indicated above, scrub soaps are not as difficult to make as boiled soaps. The process consists merely of agitation, testing the neutrality and emptying into shipping containers. Very often the proposition of using a continuous process arises. This question is brought up, undoubtedly, because of the frequent references to continuous soap making in the technical literature for boiled soaps. In practically every case, a continuous process such as is used to obviate the saponification, glycerine recovery, drying and further processing of soap is not suitable for the manufacture of potash scrub soaps. The quantities produced are not sufficiently large and the cost of the equipment needed hardly justifies continuous procedure in small plants. Then too, continuous process does not generally lend itself to intermittent production of one of a variety of products.

Another poser is the use of caustic soda rather than more expensive caustic potash. Sodium soaps, as is well known, are firmer and dissolve more slowly than potash soaps made from the same fat or oil. Soaps made from caustic soda lose their transparency. It is quite possible, particularly with opaque soaps, to make a more plastic soap when the proportion of caustic potash to caustic soda is approximately five to one.

WE have already touched upon liquid scrub soaps. Two other frequent uses for liquid soaps in the sanitary chemical field are as rug shampoo and in liquid soap dispensers. The same soap may be used for both purposes. Liquid soaps contain varying quantities of anhydrous soaps and are diluted even more by the purchaser. It is easy to add water to them. They are, as is generally known, made from high lauric acid content oils the sources of which are coconut oil or its fatty acids. For lower grade liquid soaps, the so-called acidulated coconut oil fatty acid stocks find limited use. They are obtained from the refining of coconut oil. Coconut oil soaps, probably because the oil contains a goodly proportion of lower molecular weight fatty acids, cause a burning or biting sensation on the skin. To obviate this, some manufacturers include in the fat charge some other vegetable oil like corn oil or olive oil. Too great a percentage, however, may produce cloudiness. The free alkali of the soap must be carefully controlled and the soap kept very slightly on the alkaline side between 0.05 per cent and 0.1 per cent if possible. Various additions to the soap have not proven successful in overcoming this defect.

Clarity of liquid soaps is a problem to some soapers. In addition to the usual methods of filtering at reduced temperatures, aging and certain additions of chemicals help. Colloidal precipitates and insolubles are the most troublesome. The former is apt to be due to nitrogenous impurities in the oils used and the latter to hard water.

The addition of wetting agents to soaps has not met with much success. Of the many surface-active agents available, but few work with soap. Most of them reduce rather than increase the lathering power. From time to time certain of them are recommended as suitable additives for soap but, to date, we know of none that is entirely satisfactory.

It is encouraging to note the steady and constant increase in the use of soaps in the sanitary chemical field. The opportunities will undoubtedly increase and alert manufacturers are not neglecting research in this field.

# Soap in War-Time Germany

GERMANY started the war with 600,000 tons of oils in stock, and a further large quantity was captured in Norway in 1940. Until 1941 she continued to receive substantial quantities of soybeans and whale oil through Russia. Inside the country, rapeseed became the principal source of oil and the crop was increased to 250,000 tons a year toward the end of the war. After 1941, the total available fatty acids decreased slowly but surely. Use of natural fats and oils for making soap was greatly curtailed.

Synthetic fatty acids were then resorted to. A small proportion is synthesized directly in the Fischer-Tropsch process, especially in the medium-pressure synthesis where the fatty-acid yield is 1 per cent of the total yield of products, mainly in the diesel-oil fraction. All plants recovered these fatty acids as fully as possible. Some washed the condensate with alkali and recovered the entire fatty acids in a single solution of mixed soaps. Ruhrchemie, however, washed the fractions after distillation, and thus obtained several acid fractions, of which the most valuable was obtained from the heavy diesel oils in the $C_{10}$-$C_{17}$ range, with about 0.5 per cent yield.

An increase in the alkali content of the catalyst used was shown definitely to increase fatty-acid yield to as much as 2 per cent, but only at the expense of the life of the catalyst.

Oxidation of synthetic waxes to fatty acids was also tried but this was felt to be solely a product of war with no peace-time economical significance. However, petroleum derivatives, generally oily slack waxes, were used successfully and at Ludwigshafen several hundred tons of this material had been processed into quite normal synthetic fatty acids. Henkel also tried petroleum slack waxes as raw materials, but made no progress except in admixture with 50 per cent of Fischer-Tropsch wax.

At the end of the war, three plants were operating and one was nearly completed for production of synthetic fatty acids. The total yield was rated as 75,000-80,000 tons a year, about half of which was suitable for making soap. Two of these plants have been in operation since the end of the war. *Ind. Chemist 23, 652-6 (1947).*

# Planning for a Sales Campaign

**By Geoffrey H. Wood**
G. H. Wood & Co., Ltd.
Toronto, Canada

DURING the past four or five years, the problem of the sales representative has been one of keeping his company's customers happy in the face of shortages and taking what orders he saw a reasonable chance to fill. Until recently, all industry had somewhat lost touch with the sales problem as it used to be when the salesman was confronted each day with vigorous efforts of his competitors. However the picture is rapidly changing. Many items in the sanitary supply line that were in such short supply during the war years have become plentiful almost overnight. Increased production, higher production and sales costs, more discrimination on the part of customers, and increased competition for the customer's dollar are bringing to the mind of every sales executive the question of how to set up a sales program that will spark sales efforts into higher gear.

The sanitary supply industry will be interested in some of the details of a campaign conducted earlier this year by G. H. Wood & Company, Toronto, that had for its objective a 50 per cent increase in the number of daily calls on customers. Based on the axiom: "You've got to make calls if you want to get results" the campaign emphasized the need for the salesmen to call on the small as well as the large buyer and offered salesmen a system of "planned selling" that provided a quota and objective for each hour of every working day. Incidentally, the campaign brought excellent results in the way of increased sales.

The foundation of the contest was laid on six major points:

1. A theme combining the elements of play and competition.
2. Showmanship in direction.
3. A fair and easy-to-follow scoring plan.
4. A follow-up to keep interest alive.
5. Worthwhile prizes.
6. Timing.

The entire contest was based on the quota system. Each man worked against his own record. The scoring system was a variation of the handicap type of scoring. Ordinarily, when men have territories of unequal size or are unevenly matched with respect to sales opportunity, it is impractical to put them on the same flat basis for scoring. The man with the big sales opportunity has an unfair advantage. He knows he can win without half trying. The little fellow thinks he hasn't a chance. In this contest, the scoring method gave each man an equal opportunity. Awards were made on a point system, fair to all regardless of territory, divisioning, length of service or dollar value of orders.

The main theme, "You've got to make calls if you want to get results" was emphasized in a series of daily sales charts. The charts divided a salesman's "possible" sales day into 12 sections. Even the approximate number of calls which a salesman could make were listed.

8 a.m. to 9 a.m.—3 possible calls
Early risers call on superintendents, building janitors and others.

9 a.m. to 10 a.m.—4 possible calls.
Salesman will call on his regular trade as per his prepared plan .

10 a.m. to 11 a.m.—4 possible calls.
This is where the "late starter" begins his day. Dead battery? Flat tire? Or did he sleep in?

11 a.m. to 12 noon—3 possible calls.
All salesmen are now working. There is usually a line-up at the waiting bench. It pays to get an early start on a planned day.

12 noon to 1 p.m.—nil calls.
Even a salesman must eat . . . but he should avoid going across town to do so. Cultivate the lunch spots in your zone. They are prospects.

1 p.m. to 2 p.m.—4 possible calls.
Here the ambitious salesman gets a head start on the second half of his day. Has probably already made 8 to 10 calls.

2 p.m. to 3 p.m.—4 possible calls.
The "long luncher" is now back on the job. "Better late than never." . . but better never to be late.

3 p.m. to 4 p.m.—4 possible calls.
"The rush hour." The keen salesman makes appointments with his customers for this period and avoids the line-up.

4 p.m. to 5 p.m.—3 possible calls.
This period worries the clock watcher and his sales are affected. Top men, by now, have made 14 to 16 calls.

5 p.m. to 6 p.m.—2 possible calls.
Zero hour for all but a few good salesmen. It is surprising how many good contacts can be made in this period.

6 p.m. to 7 p.m.
Dinner time for everybody.

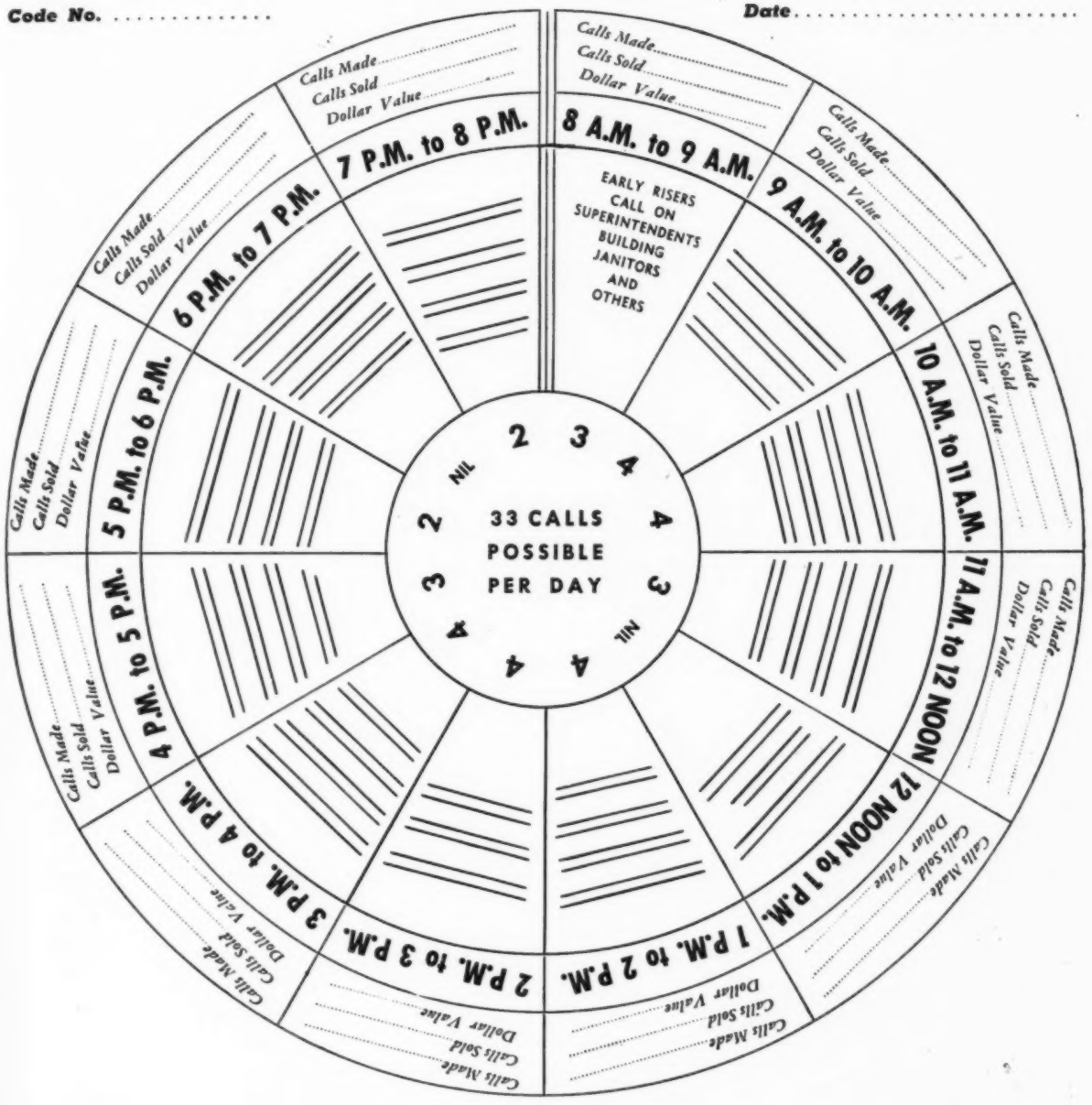
7 p.m. to 8 p.m.
The salesman determined to make his maximum number of calls will call on bowling alleys, dance halls, theatres, etc.

A space is left on the outer rim of the chart for noting the number of calls, sales and dollar value of orders booked in each hour. The charts are completed in duplicate. A call is counted only if an actual interview has taken place. Service calls include those in which "instruction is given on use of product or equipment already sold"; collection calls, minor repairs, special deliveries in an emergency. Illness, attendance at conven-

## Daily Sales Chart

**Salesman's Name**..... **Branch**.....

**Code No.** ..... **Date**.....


8 A.M. to 9 A.M.
EARLY RISERS CALL ON SUPERINTENDENTS BUILDING JANITORS AND OTHERS
9 A.M. to 10 A.M.
10 A.M. to 11 A.M.
11 A.M. to 12 NOON
12 NOON to 1 P.M.
1 P.M. to 2 P.M.
2 P.M. to 3 P.M.
3 P.M. to 4 P.M.
4 P.M. to 5 P.M.
5 P.M. to 6 P.M.
6 P.M. to 7 P.M.
7 P.M. to 8 P.M.
Calls Made
Calls Sold
Dollar Value
2 3 4 4 3 NIL 4 4 3 2 NIL
33 CALLS POSSIBLE PER DAY

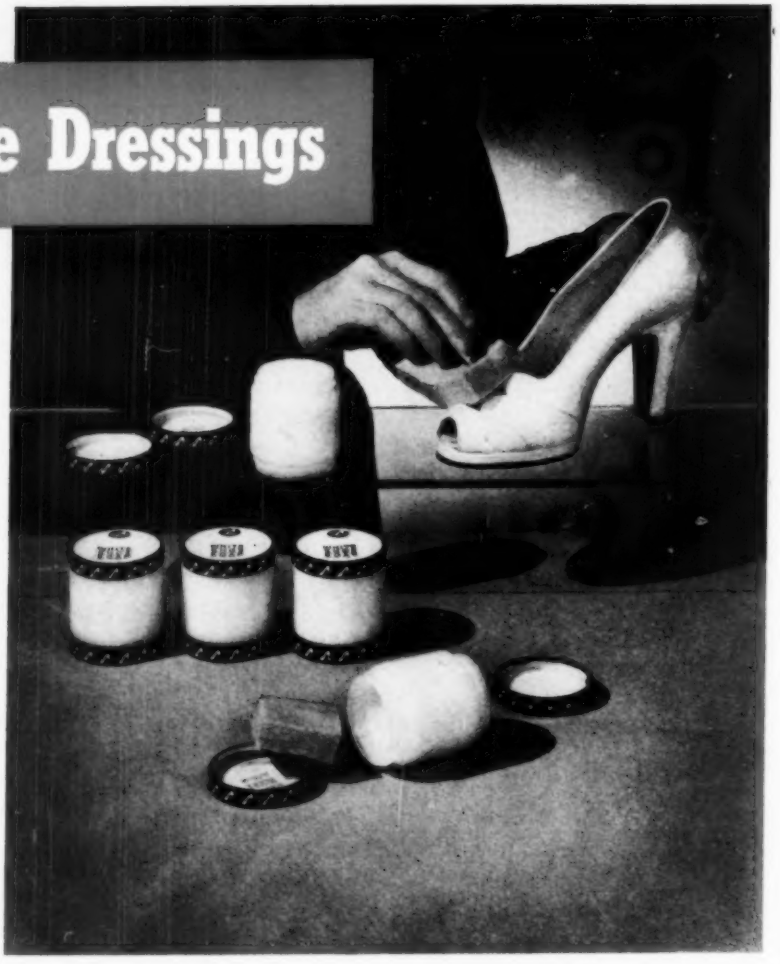
tions, exhibitions and other reasons which might cause salesman to be off his territory are all taken into consideration in scoring his points.

Showmanship is particularly evident in the follow-up system. Colored cartoons on the "You've got to make the calls if you want to get results" theme were sent out each week for the 15 weeks of the contest. In the week following receipt of each cartoon, all data mailed to the salesman carried a sticker showing the same cartoon. For example, in the first of the series illustrating the theme, the cartoon shows a proud mother cat parading triumphantly, closely followed by a litter of five.

The follow-up material, carefully planned and consistently despatched, was a very important part of the sales contest. Many contests, commenced with great enthusiasm, disin-

(*Turn to Page* 93)

# White Shoe Dressings



**By Milton A. Lesser**

ANYONE who has ever owned a pair of white shoes will readily concede that no part of the clothing gets dirty more quickly and needs cleaning more often. Hence the importance and popularity of white shoe dressings.

Except for nurses, little girls and a few others, white shoe dressings are essentially summer items. As such their production is at its highest during the winter months in preparation for the demand when warm weather approaches. Despite the fact that they are seasonal specialties, the sales value of white shoe dressings runs into millions of dollars annually: one source (1) placing the figure at seven million dollars each year.

The primary function of a white dressing is to cover the shoe upper with a strong white pigment. This sounds simple, but to achieve the desired result and provide an acceptable dressing, other factors must be taken into consideration. Some authorities have gone into elaborate detail on the requirements for modern white shoe dressings and have described various tests for evaluating their efficiency. Others have stressed that different types of leather and fabric used in white shoe manufacture require different kinds of dressings. It is common knowledge, however, that, except for occasional concessions to nappy leathers like suede and buckskin, most people use the same white dressing for all white shoes.

Boiled down to basic essentials, the requirements for a good white shoe dressing are: (a) detergency to remove stains and dirt, (b) deposition of a white film, (c) adherence or resistance of the film to wear, and (d) safety for application to shoes. (2) The user of a modern white shoe dressing takes for granted the safety of the product. He is impressed by such factors as ease of application, whiteness on the shoe, and low rub-off or dusting of the pigment. This means that the product must have the proper consistency to form a smooth, coherent layer on the shoe, must contain sufficient pigment of high covering power, and that an effective film-forming binder must be employed. In addition, the dressing should not mat nappy leathers and yet be capable of taking some buffing when used on smooth shoes. Resistance to running when spattered with water is another desirable characteristic, but the dressing should be readily removable with soap and water. (3) All this, of course, is what is expected of an ideal white shoe dressing. Some products fulfill most of these requirements; many do not.

All white shoe dressings, whether liquids, creams or pastes, or even in stick form, consist essentially of two basic ingredients— a pigment and a vehicle. Although there are notable exceptions, in the main, liquid, cream and paste products are composed of one or more white pigments dispersed in water by means of suspending agents. In many cases, the suspending agent also provides film-forming properties so that the addition of a film-forming binder is not required. Various auxiliary agents, to impart certain desired qualities to the

dressings, are sometimes included in formulas.

The chief ingredient of a white shoe dressing is, of course, the pigment. Since most white dressings cover stains and soil, rather than remove them, the selection of the pigment is a most important consideration. At present, titanium oxide is the most widely used pigment. However, older whitening agents especially lithopone, as well as whiting, precipitated chalk, zinc oxide, zinc sulfide and other pigments also find frequent use. Because they are cheaper they are often employed as extenders and modifiers for titanium whites.

Titanium oxide is more expensive than other pigments. However, its markededly superior hiding power, which permits the use of lower concentrations, takes up some of the slack with regard to price. Because less is required to obtain comparable covering action, the use of titanium oxide avoids the painted look often associated with other pigments. For this and other reasons, it is especially recommended in dressings for rough finish or nappy leathers and fabrics. (2) The titanium pigments are good mixers and can be used safely with all other white pigments. (4) Several types of titanium oxide may be employed, these varying in their hiding power, ease of dispersion, light stability and caking properties. (3) Dispersions or suspensions of titanium pigments, particularly suitable for making white shoe dressings, have been developed. (5-6)

The selection of the suspending and binding agents is also of major importance. Upon the proper choice depends such factors as consistency, stability, ease of application, rub-off and other considerations. These agents are usually chosen from groups of materials like soaps, various synthetic surface-active agents, natural gums and synthetic thickeners, water-soluble or solubilized proteins and various natural or synthetic resins.

Soap is often used in the production of white shoe dressings. Useful for its detergent action, it also serves as a thickening, wetting and dispersing agent. Synthetic surface-active agents find similar employment, but are particularly valuable for their wetting properties.

Various vegetable gums, like tragacanth and acacia, as well as mucilaginous materials such as quince seed extract and Irish moss also find use in older type dressings. In addition to their thickening and suspending properties, many of these natural substances also form films on drying. Often, however, a plasticizing agent, like glycerine, is required to prevent the films from becoming too brittle, with resultant flaking.

DURING recent years, many of these natural materials have been replaced by water-soluble or water-dispersible cellulose derivatives which form strong films on drying. Methyl cellulose, for example, finds frequent use in the preparation of modern white shoe dressings. (7) Providing good dispersing, suspending and emulsifying properties, methyl cellulose solutions can be prepared in a wide range of viscosities for liquid and paste products. Very stable in both the solid and liquid forms; when dry, methyl cellulose produces a smooth and even film of marked strength and covering power. Newer cellulose derivatives, like carboxymethylcellulose (8) and ethyl hydroxy ethyl cellulose ("Ethulose") (9), offer great promise for like uses in white shoe dressing formulation.

Protein materials like glue, gelatin, the alginates and solubilized casein are also used as suspending and film forming agents. When casein is employed, it is made soluble or dispersible by allowing it to swell and dissolve in water which has been made alkaline with ammonia, soda ash, borax or other alkali. Too much casein should be avoided because it may build up on the shoe; causing stiffness and subsequent cracking. (10)

The same holds true when natural or synthetic resins are employed as binding and film-forming agents. Natural resins like shellac, dammar, rosin and others are advantageously employed in a number of formulations. The synthetic resins, like ester gum, vinyl esters, and glycerine phthalate resins are dissolved in solvents or otherwise dispersed in some of the newer type dressings. (11)

Various auxiliary agents are included in white shoe dressings to impart certain desirable characteristics. For instance, small proportions of neatsfoot oil, lanolin, sulfonated oils, and other fatty substances of animal or vegetable origin may be added to dressings as leather softeners. According to Macaluso, (3) these additions serve to replace oils which are removed from the leather by the shoe dressing. Thus they help to prolong the life of the shoe leather and minimize cracking.

Various waxes, like carnauba, candelilla, montan and others, which are extensively employed in making colored shoe polishes, (12) may also be used in white shoe dressings. Glickman (2) has pointed out that solutions or dispersions of waxes add firmness and gloss to the dried coating of shoe white. The incorporation of a wax emulsion in a white dressing, whether liquid or paste, provides a subdued gloss effect, differentiating such products from those which leave a dead-white finish. This gloss can be heightened where desired, as on kid and smooth calf leathers, by light

***Now is the time to formulate for next spring's market. Samples should be placed on the shelf for a few months in order that their ageing qualities can be observed.***

buffing. Moreover, the presence of wax adds to the adhesive qualities of the dressing and reduces the tendency to rub off.

Organic solvents are occasionally included in white shoe dressings as cleansing agents for removing grease spots. Excessive quantities of solvent should be avoided because it has been found that these materials may remove the fats and oils necessary to keep leather soft and pliable. A similar opinion holds with regard to the use of strong alkaline cleaning agents, like trisodium phosphate, which may cause deterioration of leather by destroying or removing the acidic tanning agents. (13)

The matter of adding a perfuming agent to a shoe whiting is one of choice on the part of the manufacturer. Various essential oils and odorizing compounds may be used, and special products have been developed by perfume houses. Sometimes a small proportion of a blue dye or pigment is added to enhance the whiteness of dressing or to counteract any yellow tints in the pigments. Such addition is analagous to the custom of adding blueing to the rinse water of white clothes. (14)

Because they are hot-weather items, and because they may stay on dealers' shelves between seasons, white shoe dressings should contain a suitable proportion of an effective preservative. This is especially true in dressings made with natural suspending and film-forming materials, but also applies to other types of products. Failure to include a proper preservative in adequate amounts may result in discoloration, bacterial and fungal growths, off-odors and the development of gas pressure. Even where a preservative is not specifically indicated in the formula for a liquid, cream or paste dressing, it is better to include a preservative than to omit it. This addition adds little to the cost and may make a great deal of difference in the shelf-life and sales appeal of the product. Various phenol compounds, the esters of para-hydroxybenzoic acid, sodium salicylate and many other compounds may be used.

Although liquid products are the most popular, shoe white creams in tubes and pastes in jars also command respectable markets. Many of these compositions resemble each other both in constituents and in method of manufacture; the chief difference being in the water content. Formulation of most dressings is not too complicated and production procedures are fairly simple. In the main, all that is necessary is to put the required amount of water into a mixing tank, add the suspending agent, binder and other water-soluble ingredients, and stir. The pigment is then sifted into this solution, using high-speed agitation to assure uniform dispersion. (3-10) When waxes, solvents or oils are incorporated in the dressing, the procedure may be somewhat more complicated and emulsifiers may be needed.

MANY formulas for making liquid dressings are available in the technical literature and occasionally in patent specifications. (15) Illustrative of the older but still useful type of mechanical mixture is the following basic formula for a liquid white shoe dressing. Originally suggested by Auch, (16) and since cited in a Government text, (17) this formula calls for:

| | *parts* |
|---|---|
| Lithopone | 20 -22 |
| Disodium phospate | 1 - 2 |
| Bentonite | 1 - 2 |
| Water | 77.9-73.8 |
| Perfume | 0.1- 0.3 |

In this formula, the lithopone may be replaced in whole or in part with other pigments. The composition lacks a binder, but one may be added if desired.

This lack is remedied by the use of gum arabic as a binder in the more modern formula cited by John (4) as originating in the development laboratory of the Titanium Pigment Corporation of America:

| | *per cent* |
|---|---|
| Titanium dioxide (water-dispersing grade) | 15.0 |
| Gum arabic | 5.0 |
| Bentonite | 1.5 |
| Pine oil | 1.0 |
| Preservative | 0.1 |
| Water | 77.4 |

If desired 0.25 per cent of castile soap may be included in the dressing. In either case, it is stated that such dressings will remain in practically complete suspension; showing no clear-supernatant fluid and with no tendency to settle in a hard pack. They are non-alkaline and do not rub off.

Indicative of the trend toward the use of laboratory-created binders and suspending agent is the following commercial product made with methyl cellulose plasticized by a sulfonated oil: (3-10)

| | *per cent* |
|---|---|
| Methyl cellulose | 5.0 |
| Sulfonated oil | 2.0 |
| Titanium oxide | 13.0 |
| Talc | 3.0 |
| Clay | 1.0 |
| Water | 76.0 |

Protein binders, like glue, are frequently employed in making liquid dressings, as in the formula (11) given below. This may be perfumed with benzaldehyde or other cover odor:

| | |
|---|---|
| Titanium dioxide | 1 lb. |
| Lithopone | 8 lb. |
| Water | 3 gal. |
| Glue | ½ lb. |
| White soap chips | 1¼ oz. |
| Preservative (Dowicide A) | ½ oz. |

Casein plays a similar role, and its usefulness as a thickener and binder is indicated in the following white shoe dressing cited by both Macaluso (3) and Small: (10)

| | *per cent* |
|---|---|
| Sulfonated oil | 4.0 |
| Sodium borate | 2.0 |
| Boric acid | 2.0 |
| Casein | 0.5 |
| Titanium oxide | 13.0 |
| Water | 78.5 |

When properly dispersed and suitably plasticized, shellac makes an efficient film-forming binder for liquid white shoe dressings. This is illustrated in the following preparation, (18) which requires shaking before use:

| | *parts* |
|---|---|
| Lithopone | 19.00 |
| Titanium dioxide | 1.00 |
| Shellac (bleached) | 3.00 |
| Ammonium hydroxide | 0.25 |
| Water | 25.00 |
| Alcohol | 25.00 |
| Glycerine | 1.00 |

After considerable experiment and comparison with many commercial products, Glickman (2) found

that a shellac-containing dressing gave the best results from the standpoint of adhesiveness, detergent power, ease of resuspension on shaking, and whiteness. The formula developed by him contained:

| | *per cent* |
|---|---|
| Titanium dioxide | 5.0 |
| Shellac solution | 30.0 |
| Soap solution | 65.0 |

The soap solution consists of 1.9 per cent of a commercial, filler-free chip soap dissolved in a solution of water and alcohol in a ratio of 55.6 per cent water to 42.5 per cent denatured alcohol. The shellac solution is made by dissolving bleached, dewaxed shellac in the presence of triethanolamine in water. The ratio is 1.65 pounds of shellac to each 0.3 pound of triethanolamine and 1.75 gallons of water. To make the dressing, the required proportion of soap solution is thoroughly mixed with the correct amount of shellac solution and to the resulting mixture is added the requisite quantity of pigment, with thorough stirring.

The use of wax as an adjunct in liquid white dressings is illustrated in the following emulsion type product: (4)

| | *per cent* |
|---|---|
| Titanium dioxide | 15.0 |
| Pine oil | 1.0 |
| Sodium alginate | 0.3 |
| Gum arabic | 1.0 |
| Carnauba wax | 1.0 |
| Japan wax | 1.0 |
| Oleic acid | 0.5 |
| Triethanolamine | 0.5 |
| Water | 79.7 |
| Preservative | sufficient |

The pine oil is emulsified with a small portion of the oleic acid and triethanolamine and the pigment thoroughly wetted with this emulsion. The alginate, dissolved in a small part of the water, is added to the pigment mix. The gum arabic is dissolved in a small amount of water by heating on a water bath. When dissolved, the gum solution is also added to the pigment mix. The waxes are heated with the remaining oleic acid and triethanolamine to about 185°F. and then a sufficient amount of boiling water is added while stirring vigorously. Stirring is continued for about ten minutes, until a smooth mixture is formed. Allow to cool to room temperature with slight agitation.

Another wax-containing white shoe dressing makes use of a modern synthetic wetting agent and a synthetic alkyd resin. Said (19) to provide a non-alkaline product which not only covers, but which also cleans exceptionally well, the dressing contains:

| | *per cent* |
|---|---|
| "Aerosol OT," aqueous | 10.00 |
| Titanium dioxide | 10.0 |
| Montan wax | 2.0 |
| Alkyd resin (Rezyl X-315) | 1.0 |
| Gum karaya | 0.5 |
| Preservative | 0.1-0.5 |
| Water | 76.0-76.5 |

Mix the gum and wetting agent. Mix the wax and resin and add to the previous mixture and add the whole to the pigment and water, which are maintained at 80 to 90°C.

Typical of the emulsion type dressings containing solvents is the following formula listed by Mason: (14)

| | *parts* |
|---|---|
| Titanium dioxide | 5.0 |
| Lithopone | 15.0 |
| Dammar resin (white) | 4.0 |
| Carbon tetrachloride | 10.0 |
| Petroleum naphtha | 13.0 |
| Triethanolamine stearate | 2.0 |
| Water | 51.0 |

Dissolve the resin in the naptha and strain to remove foreign particles. Dissolve the triethanolamine stearate in warm water. After cooling, stir the resin solution into the aqueous solution a little at a time, using vigorous agitation. After a smooth emulsion forms, stir in the carbon tetrachloride; followed by the pigments.

Sometimes both waxes and solvents are present in liquid white shoe dressings, as in the following instance: (20)

| | *parts* |
|---|---|
| Monostearate ester | 6 |
| Varnolene | 20 |
| Toluol | 25 |
| Titanium dioxide WS | 30 |
| Colloidal wax emulsion (carnauba type) | 60 |
| Water | 20 |
| Trichlorethylene | 40 |

Mix the ester with the solvents and the pigment until uniform. Dilute the wax emulsion with the water and add to the ester-solvent mixture. Pass through a colloid mill.

CREAM and paste white shoe dressings are very much alike except that the viscosity of the former permits packaging in collapsible tubes, while the consistency of the latter requires flat jars or tins. Thus a cream or paste dressing may be made by regulating the consistency of the following basic formula: (16-17)

| | *parts* |
|---|---|
| Lithopone | 60-65 |
| Toilet soap chips | 6- 8 |
| Sodium silicate | 0.3-0.5 |
| Perfume | 0.3-0.5 |
| Water | 33.4-26 |

The addition of talc or zinc stearate facilitates the application of the resulting products, which are best packed in tin containers or tubes.

Using diglycol stearate as the dispersing and suspending agent, a white shoe dressing may be prepared that is suitable for packaging in tubes or glass jars. Such a product is made from:

| | |
|---|---|
| Diglycol stearate | 1 lb. |
| Water | 5½ pt. |
| Titanium dioxide | 2 lb. |

Heat the stearate and the water to about 150° F. until the wax has melted. Mix at high speed until milky, continue slow stirring 'til cool. Allow to stand overnight and stir in the pigment. The product is said (21) to have excellent coverage and is applicable on all kinds of white shoes. After application, the dressing should be allowed to dry and polished with a brush, after which the white will not dust off.

With methyl cellulose as the suspending and film-forming agent, a cream of high covering power, easy applicability and suitable for packing in tubes may be made from: (7)

| | *parts* |
|---|---|
| Methyl cellulose (5% solution) | 50 |
| Water | 8 |
| Turkey red oil | 1 |
| Precipitated chalk | 24 |
| Zinc white | 8 |
| Titanium white | 8 |

The mixed materials are ground together to give a homogeneous product.

A wax-containing white shoe dressing suitable for use on all kinds of white leather is given by Belanger

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# SYNTHETIC for Washing

**By O. M. Morgan**

National Aniline Division
Allied Chemical & Dye Corporation

Figure 1: Flusher—rear view—spraying water. Note the oil spots on the pavement which have not been wetted.

Figure 2: Close-up view of street surface directly behind the flusher spraying water shows unwetted oil spots.

THE use of a synthetic detergent wash instead of plain water for street-washing is a new technique worthy of study not only by those responsible for municipal sanitation but by members of the industry who have an eye toward the future marketing of synthetic detergents on a large scale. The idea, proven technically practical by a demonstration held during September in Toronto, is said to have considerable economic justification as well.

Clean streets, like a safe water supply, proper health regulations and good traffic laws, are essential to the safety and appearance of a community. Sanitation officials, conscientious though they may be, are faced with a difficult task. The tools to do the job, even though they may be up-to-date and expensive, are unable to cope with the mounting accumulation of oil and grease, dirt and litter deposited by more and more cars, trucks, and pedestrians.

There's no doubt that year after year the problem of street cleanliness has loomed larger and tougher. By far the largest contributor to this problem, is heavier car and truck traffic. Oil and grease are an eyesore and a skidding hazard. They also retain other dirt and dust, adding to the difficulty of removal.

The modern power flusher has attained a high degree of efficient design, but its operating efficiency is limited by the acknowledged inadequacy of water when used alone as a cleansing agent. Oil, grease and dirt coated with oil and grease, are not removed by the most copious floods of water.

Soap might appear to be an obvious solution for it "cuts" oil and grease, and emulsifies dirt well. However, soap has serious drawbacks for this application. Its slipperiness merely replaces one skidding hazard with another. Because it is sparingly soluble, it dissolves very slowly in cold water. It would be very costly because of the large amount needed for effective use.

Considerations of this kind led to the trial with "Nacconol" NR,* one of the new stable synthetic detergents. This material is very soluble in cold water, and its cleansing properties are not affected by hard water. Dust is rapidly wetted, and oil is quickly emulsified and flushed away by solutions of this chemical.

The use of the detergent in power flushers is as simple as it needs to be for practical everyday washing. A 5-pound bag of it is merely dumped into the empty 2,000-gallon tank,

* Trademark "Nacconol NR" registered in U. S. Patent Office by Allied Chemical & Dye Corporation.

# DETERGENTS
# City Streets

***A new and large market seen for the "synthetics."***

which is then filled with water from a fire hydrant. The swirling of the water is enough to dissolve the material. By the time the tank is filled, the flusher is ready to operate. The detergent is weighed out beforehand into 5-pound paper bags, which are carried in the cab or tool box of the flusher.

Nozzle pressures of 30 - 60 pounds per square inch have been used in various demonstrations. The higher pressures appear to be more effective in removing oil and grease.

THE accompanying series of photographs tells the story of the Toronto demonstration. Figure 1 shows a street flusher spraying plain water. Unwetted oil spots are easily discernible, but they are more plainly evident in the close-up in Figure 2.

Figure 3, of the flusher spraying the synthetic detergent solution, shows how the suds are sprayed from curb to curb. Figure 4 shows suds flowing down the gutter ahead of the flusher on a downhill grade. Emulsified oil makes dark spots on the foam. Some of the dark spots in the foam are oil, others are dust and litter. The odor was much fresher than after flushing with plain water, and the skidding hazard was not increased. On some surfaces, in fact, skidding is actually reduced.

COST of using a synthetic detergent for this purpose is surprisingly low. Five pounds of the material used in the test will wash a mile of streets. In recent months, the cost of this material has been running below the cost of soap.

Demonstration trials indicate that washing efficiency is doubled by the use of a detergent. Oil and grease, heretofore left behind as a lodging place for injurious filth, are effectively removed. As a result, more streets may be kept cleaner or less frequent washing may be possible, yielding a net saving in street upkeep.

In addition to these possible savings, there are other advantages, less easily measured, which make the use of detergents well worth considering. It is impossible, for example, to put an assessment on improved appearance and cleaner odor, but they are a comfort to the community. It is also impossible to determine how many auto smash-ups may be avoided by removal of slippery oil, or how many infections may be prevented by elimination of filth, but such factors should certainly be taken into account when this new technique is appraised.

The residents of large cities are constantly demanding that the "cities be kept cleaner. The use of synthetic

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**Figure 3: Front view of flusher spraying synthetic detergent. Note suds coverage from curb to curb.**

**Figure 4: Close-up view of the detergent bath flowing down the gutter ahead of the flusher. There is distinct evidence of oil in the foam.**

# Chemicals

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# TRADE NEWS. . . .

### Star Soap Co. Moves

Star Soap Co., Brooklyn, announced early in December that it is now located in new and greatly enlarged quarters at 300-310 North 7th St., Brooklyn. The new plant, which covers 20,000 square feet of floor space occupies two stories in the building. It will be used for the manufacture of kosher soap, bar laundry soap and tumbler candles. Star Soap Co. owns the buildings in which the new plant is located, and moved to its new address from 17 Forrest St., Brooklyn. Sol Gurvitch is owner and head of the company, which has been operating for about nine years.

### Luckman Leaves Food Post

Charles Luckman, president, Lever Brothers Co., Cambridge, Mass., retired from his post as chairman of the President's Citizens Food Committee on November 20th. Mr. Luckman asked to be relieved from the appointment, which he had accepted less than two months ago on grounds that the program thus far "should result in considerably more than one hundred million bushels of grain" which was its goal. President Truman asked Mr. Luckman and his fellow committee members to remain on call for advice during the world-wide food shortage.

### C-P-P Extra Dividend

An extra dividend of $2, payable Dec. 23 on stock of record Dec. 11, was declared early this month by Colgate - Palmolive - Peet Co., Jersey City, N. Y. The total dividend for the year is $5, as against $4.25 paid in 1946.

### Changes Name to Tern

Lorraine Compounds, Inc., New York, which recently launched its liquid wool-wash agent "Tern," in the New England area, changed its corporate name December 1st to Tern, Inc.

### Babbitt Elects Geismar

Leo W. Geismar was recently elected treasurer of B. T. Babbitt, Inc., New York, Mr. Geismar has been

LEO W. GEISMAR

associated with the Babbitt company for thirty years, having started in the sales department as a statistician. Before his new appointment, he was assitant treasurer of the company. He is also sales manager of Champion Chemical Works, a Babbitt subsidiary, and distributor of such products as lye, caustic soda and chloride of lime.

### Survey Shows Soap Shifts

Shifts in public preference for individual soaps, but not as to types of soap, were indicated in the recently published results of the Pittsburgh (Pa.) *Sun - Telegraph*, "Continuous Consumer Brand Inventory of Grocery Products."

### New Fuld Cleaner

"Prust," a new paste cleaner for porcelain, enamel, etc., was announced recently by Fuld Bros., Inc., Baltimore. The new cleaner, which comes in 20-ounce, wide-mouth jars, is recommended by the company for removing rust and stains. At the present time, "Prust" is available only from the Baltimore plant.

### New Powder Hair Shampoo

Daggett & Ramsdell, New York, early in December, announced the introduction of "Debutante Foamy Powder Shampoo," a new hair preparation that is described as a "soapless, concentrated powder shampoo that lathers instantly and abundantly in either soft or hard water." It is also recommended for washing hands. The new shampoo comes in a tall, round, cardboard box with a shaker top and metal base. It retails for $1.00.

### Lever Advances Campbell

R. Craig Campbell, special field supervisor on "Breeze," Lever's new soapless detergent, has just been appointed division sales manager of the Syracuse (N. Y.) division office of Lever Brothers Co., Cambridge, Mass., it was announced Dec. 5. Mr. Campbell has been with the company since 1936, when he joined the firm as a messenger at the Lever Brothers home office in Cambridge. He rose quickly through a number of clerical assignments and in 1938 was appointed to the junior sales staff. Assignment to the regular sales staff soon followed. Mr. Campbell's selling career was interrupted by five years in the armed forces. Upon his return from service, he became in turn field supervisor in Connecticut and later special field supervisor on "Breeze."

### C. S. Kirk Dies at 56

Charles Starr Kirk, 56, an associate of James S. Kirk Soap Co., died Nov. 29, at Evanston, Ill., Hospital. He leaves his wife, the former Dora Frances Sherratt, concert singer and composer.

### New York Soap Moves

New York Soap Co., producers of "Nysco" brand of soaps, disinfectants and cleaners, moved to larger quarters at 258 Third Street, Brooklyn 15, N. Y., during November.

## Propose Govt. Soap Controls

Broad government control over soap and soap powder, as well as fats and oils, oil bearing materials and fatty acids was recommended recently by an official of the U. S. Department of Agriculture, appearing before a joint Senate committee hearing on the Economic Report. Carl C. Farrington, assistant administrator of the Production and Marketing Administration, USDA, made his proposal before Senator Taft's Joint Committee meeting on Nov. 24. He recommended the control of soap products and fats and oils as an alternative in the event Congress should decide to limit the power the Administration had over food in the Second War Powers Act to specific foods. He asked authority over soap, fats and oils, fatty acids, but not petroleum and petroleum products, understood to mean certain types of synthetic detergents.

Mr. Farrington asked power to: a.) limit inventories; b.) restrict and prohibit use on the basis of essentiality; c.) limit delivery or transportation; d.) require set asides for governmental purchase; e.) provide priorities in filling orders; f.) license imports; and g.) control exports (presumably through license).

According to some interpretations, it was not made clear whether Mr. Farrington sought rationing and price fixing authority over fats, oils, fatty acids, soaps and soap powders (in addition to other commodities).

## Guenther ACS Speaker

Dr. Ernest Guenther, vice-president and chief chemist of Fritzsche Bros., Inc., New York, spoke before 200 members of the Maryland section, American Chemical Society, November 21, 1947, at Johns Hopkins University, Baltimore. He presented a series of colored motion pictures on the production of essential oils in the western hemisphere. Included were pictures taken on a recent trip to Haiti. Dr. Guenther pointed out that Haiti has developed importantly within the last few years as a producer of excellent commercial grades of petitgrain, lemongrass, vetiver and West Indian sandalwood oils. He also showed pictures of essential oil production in the United States, Mexico, the West Indies and in Central and South America.

## Forms New Soap Co.

The formation of Easton Soap Products Co., Elm Ave., Easton, Calif., by Harold D. Broderick, was announced late in November.

## Lieberthal Firm Starts

Jules M. Lieberthal, formerly national sales manager, Trinity Cotton Oil Co., Dallas, has announced the formation of J. M. Lieberthal & Co., as manufacturers' representatives, specializing in soaps, detergents, related chemicals and kindred sanitary commodities. The new organization has been appointed national sales representative for E. F. Drew Co., Boonton, N. J., serving the soap, sanitary and maintenance supply trade. Their offices are in Suite 1659, 1440 Broadway, New York, N. Y.

## New Metal Cleaner Line

A new line of metal cleaners was recently developed by Parker Rust Proof Co., Detroit. The new line of "Parco" cleaners for steel, zinc and aluminum, includes emulsion, acid, and alkaline types. They are formulated for cleaning with hard water to remove soil rapidly from metal surfaces, to condition them for fine, dense Bonderite coatings, and to remove rust and grease prior to painting.

## Says Lever to Buy "Luxor"

A report that Armour & Co., Chicago, are completing arrangements to sell their "Luxor" line of cosmetics to Lever Bros., Cambridge, Mass., is published in the Nov. 28 issue of *Tide*, magazine of advertising and selling. According to the *Tide* story, the only reason for withholding the news of the sale is the desire on the part of Lever Brothers to time the announcement properly. Armour, the story relates, meanwhile is preparing its dealers to clear their shelves of "Luxor" products by Jan. 1, and is said to have offered to take back those still on hand on the first of the year. *Tide* reports that Armour will continue to make its "Stork" line of baby products.

## Antara New Aniline Unit

The enlargement and designation of the special products division as Antara Products, was announced recently by General Aniline and Film Corp., New York. Antara, which will continue to handle the expanded distribution of the company's line of synthetic detergents, emulsifiers and surface active agents, will be located at 444 Madison Ave.

## Watkins Appoints Cullinane

Michael J. Cullinane has been appointed merchandising director of R. L. Watkins Co. a division of Sterling Drug, Inc., Newark, N. J. He formerly was manager of sales and advertising of Sterling's Cummer Co., division.

Made of shock resistant, amber, transparent plastic, this soap dispenser, offered by L. E. Hicks & Son, Inc., Oak Park, Ill., offers the twin advantages of a strong lock and a means of easily checking on the level of its contents. The company also markets "Spunderma-C" brand hand cleaner in 5 lb. packages or 100 and 300 lb. drums.

## Cosmetic Chemists Meet

Three new officers were elected at the third annual meeting of the Society of Cosmetic Chemists held in the Biltmore Hotel, New York, on December 3rd. Elected were: President, Walter A. Taylor, Ponds Extract Co., New York; Vice President, Everett G. McDonough, Evans Chemetics, Inc., New York; and Secretary, Ruth Bien, Good Housekeeping Institute, New York. Emery A. Emerson, Seran Co., Springfield, Mass., was re-elected treasurer. Emil G. Klarmann of Lehn & Fink Products Co., Bloomfield, N. J., retiring president of the society, and Raymond E. Reed of Reed Chemical Co., St. Paul, Minn., were named directors.

Among the papers presented at the meeting was one by Edward Sagarin of Givaudan-Delawanna, Inc., New York, on "An Inquiry into the Origins of the Literature on Perfumery." Raymond E. Kirk head of the Dept. of Chemistry, Dean Graduate School, Polytechnic Institute of Brooklyn, spoke on "The Chemist as a Professional Man" and S. H. Newburger, Cosmetic Div., Food & Drug Administration, Washington, discussed "The Analysis of Mixtures of Hydrocarbons, Beeswax and Spermaceti." Following a luncheon, papers were read by Louis C. Barail, U. S. Testing Co., Hoboken, N. J., on "Bacteriological and Dermatological Testing of Cosmetics"; E. G. McDonough on "Development of Machineless Permanent Waving"; and Henry C. Speel, Alrose Chemical Co., New York, on "Surface Active Agents in Cosmetics."

## FR Names Smith

Walter H. Smith was recently appointed assistant to the president of FR Corp., New York, manufacturers of the soapless detergent, "Scoop."

## New "Far" Hand Cleaner

The introduction of "Far Waterless Handy Cleaner" and its addition to the line of automotive cleaners, brake fluids, etc., of Farbach Chemical Co., Cincinnati, was announced Nov. 10. The new cleaner comes packed in 14 ounce, three pound and five pound standard lithographed cans, and in jumbo-size tubes. Larger containers and dispensers, especially for industrial use, are also available. Henderson & Austin Co., Stamford, Conn., will distribute the product nationally through jobbers, distributors and dealers in the automotive industrial hardware and consumer fields.

## Curbs Imports, Adds Tax

Imports into Canada of toilet soap and toilet preparations, including perfumes, are prohibited under an order announced November 17, 1947, by the Minister of Finance. The new order practically deprives Canadians of any benefit they might have received from concessions on imported goods under the Geneva Trade Agreement. Also banned are items such as paper boxes, facial tissues, paper novelties, and petroleum jellies.

An excise tax of 25 per cent has been levied on a wide range of luxury goods, not only those imported, but those manufactured in Canada. Items subject to the new tax include toilet articles of all kinds not on the prohibited or quota list.

## Hold Packaging Forum

The ninth annual forum of the Packaging Institute was held November 18 and 19, 1947, at the Hotel Commodore, New York. Among the papers presented on closure and packaging of interest to the chemical specialty field were "Metal Closures" by L. D. Lauve, Crown Cork & Seal Co., and "Closure Liners" by J. M. Sheaton, Owens-Illinois Glass Co., Toledo. Discussion meetings were held on the control of finished packages and on the development and control of packaging material specifications.

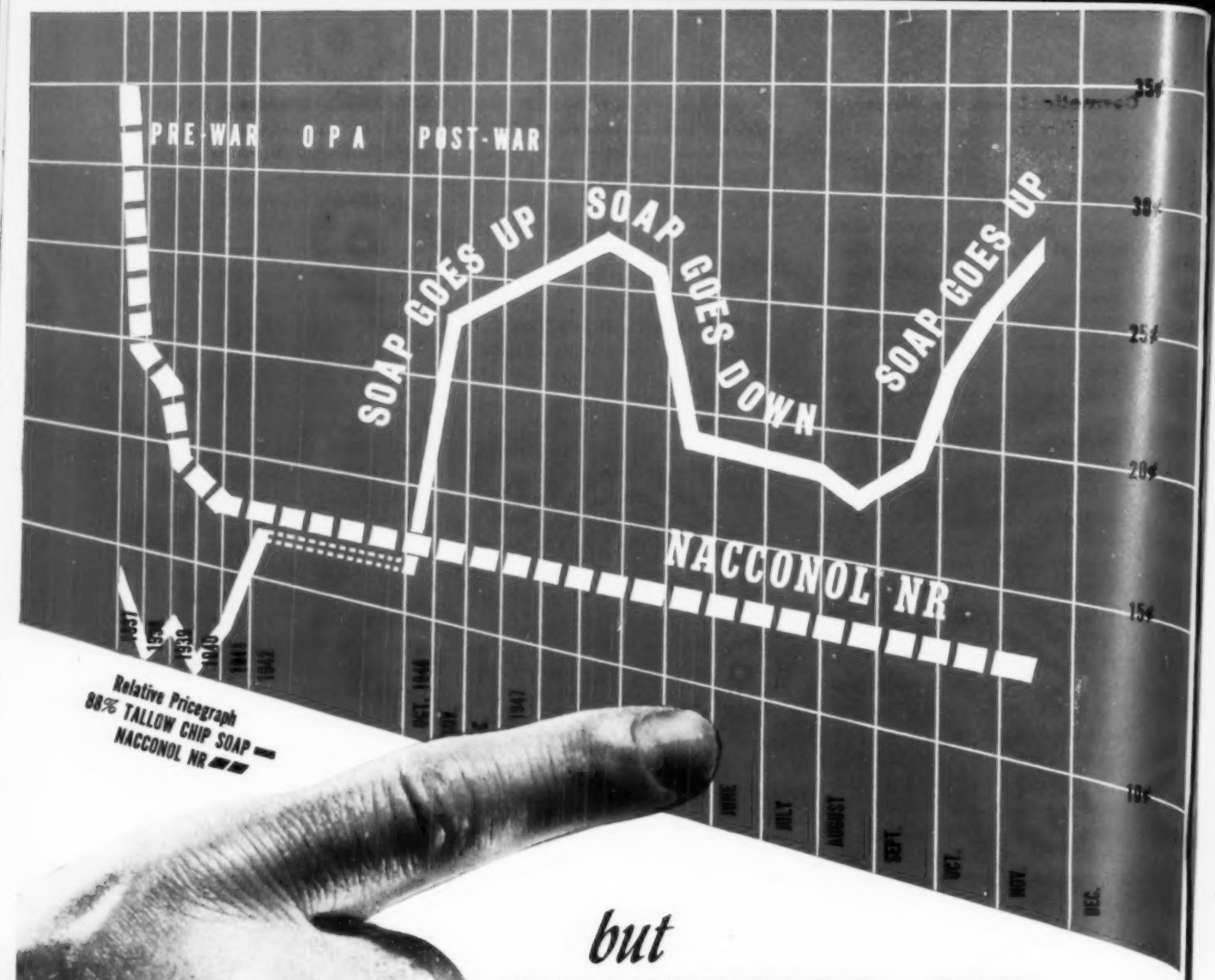
## TGA Holds Meeting

The scientific section of the Toilet Goods Association held a one-day meeting at the Waldorf-Astoria Hotel, New York, December 4th, with Paul H. Douglas, Bourjois, Inc., New York, president of the association, presiding. The meeting featured the following speakers:

Dr. Erwin Di Cyan, Di Cyan & Brown, "Experimental Principles in Cosmetic Studies, Part II, Baby Powder"; Dr. Henry J. Wing, Northam Warren Corporation, "Liquid Nail Polish"; W. W. Edman, Evans Chemetics, Inc., "A Method of Color Control for Cosmetic Powders"; G. Robert Clark, acting chief, cosmetic division, Food & Drug Administration, "Spectrophotometric Methods of Analysis for Some Cosmetic Ingredients," and Helen Discrens, Lois Hill and Patricia Miller, Bristol - Myers Company, "Emulsion Consistency As Related to Analytical Constants of Triethanolamine."

At the afternoon session, speakers and their subjects were:—R. K. Rhodes, L. Sonneborn Sons, Inc., "Methods For Evaluating the Functional Properties of Petrolatum"; Maison G. deNavarre, Cosmetic Laboratories, Inc., "The Suspending Power of Gums"; I. R. Hollenberg, Van Dyk & Co., "Emulsifier Development and Evaluation" and Ernest S. Guenther and Edward E. Langenau, Fritzsche Brothers, Inc., "Some Newer Commercially Important Essential Oils of the Western Hemisphere." This paper is of particular interest to the soap and sanitary chemical industry for production figures and analytical data are offered for over 20 different essential oils. About 350 attended the meeting.

The modernized can pictured here for packaging "Gre - Solvent," hand cleaner is made by Utility Co., New York. The package needs only a quarter turn either way to bring the trade mark to the shopper's eye.

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**COSTS LESS THAN SOAP**

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**Control your costs by specifying NACCONOL NR**

**Additional production now available for your complete detergent needs. Inquiries Invited.**

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### New Publicker Detergent

Commercial production of an alkyl aryl sulfonate type of surface-active agent was recently announced by Publicker Industries, Inc., Philadelphia. The new product, with wetting, spreading, leveling and foaming properties, is trade-marked "HHS" and is prepared in dry flake form. It is said to be stable in hard water, to disperse calcium soap, and to have good emulsifying properties.

### German Soaper Appeals

Henkel & Co., Frankfurt-Am-Main, Germany's largest soap manufacturer, protested, November 7, against the inclusion of its Duesseldorf plant on the Anglo-American dismantling list. Using American advertising techniques, the company published a brochure taking top British officials to task by contrasting unfavorably their statements of policy with "reality." "If this plant is stripped for reparations," the company warned, "it means disease, epidemics, panic and chaos."

### Backs Premium Coupons

"Constant collection of premium coupons by the consumer develops habitual use of a product" stated Joseph M. Davidson, premium manager, Colgate-Palmolive-Peet Co., Jersey City, and president of the Premium Advertising Association of America, at a luncheon meeting of the New York Premium Club at the Hotel Sheraton in November. Mr. Davidson pointed out the advantages of the premium system in building continuous use of a product, as contrasted with the "box-top" contest plan which he described as chiefly a sampling campaign.

### Meinhardt Plans Soap Plant

J. A. Meinhardt & Co., Chicago manufacturers of sanitary specialties, have plans for a plant to produce soap flakes. Active construction will start next spring, according to Mr. Meinhardt. The enterprise will be located at Wyoming, Ill., near Peoria, where the Meinhardt company is now pushing final construction phases on a plant, started last spring, for manufacture of paradichlorobenzene. The projected soap works will occupy one of a group of buildings near the PDB plant and will produce only polished soap flakes for household use.

### Fire at Turco Products

The Chicago branch plant of Turco Products, Inc., Los Angeles, was damaged by fire November 3rd, according to C. F. Devine, manager. Damages estimated at around $25,000 were done to first floor machinery, and stocks on the second floor were damaged by water. Heat, light and power services were quickly restored. New stocks were started to Chicago from other distribution points and there will be no delay in servicing Chicago territory customers with the company's cleaning compounds and other products, Mr. Devine, stated.

### C-P-P Offers Coupons

Colgate - Palmolive - Peet Co., Jersey City, distributed five coupons to Chicago housewives last month, including one offering a free can of the company's new "Ajax" cleanser, two offering a 10-cent reduction in price on purchases of "Super Suds" or "Vel," and two offering two cakes of "Palmolive" or "Cashmere Bouquet" toilet soap for the price of one.

### Charles Lenth Dies

Charles William Lenth, director of research for Jaques Manufacturing Co., died Nov. 11th, in his home in Wilmette, Ill. He was 39 years old. Dr. Lenth, at one time associated with the glycerine research program for the Association of American Soap and Glycerine Producers at the Miner Laboratories, Chicago, left in June 1942 to help set up a technical advisory section in the office of George B. Wrisley, at that time head of the WPB soap and glycerine unit. He later became assistant chief of the soap and glycerine unit of WPB and became chief in March, 1943, when E. W. Wilson returned to Armour & Co., Chicago.

### Detergents Evaluated

A new laboratory method for evaluating detergents for wool scouring processes was presented in a paper read by E. A. Leonard and A. R. Winch, Alexander Smith & Sons Carpet Co., Yonkers, N. Y., at the December 5th meeting of the New York section of the American Association of Textile Chemists and Colorists, New York, held at Kohler's Swiss Chalet, Rochelle Park, N. J. The first two 1948 meetings of the association are scheduled to be held at the Hotel New Yorker, New York, January 23rd and March 12th.

This display unit for the "Soilax" cleaner package of Economics Laboratory, St. Paul, is a space-saver measuring 8 x 13¾ x 6⅜. Like the 24 cartons it contains, it was designed by Ohio Boxboard Co., Rittman, Ohio. It has a special lock-tuck bottom which keeps the boxes of Soilax secure in the display unit. Taping, gluing or stitching is eliminated.

# May the good smells that mean Christmas surround you

WE hope your whole holiday season is filled with the good smells of happiness . . . Let there be sweet wood smoke for you, from fireplaces with youngsters around them . . . and the spicy smell of busy kitchens, where pies and fat turkeys roast . . . May your house be filled with popcorn smells, apples, oranges, nuts—with the perfumes of loved ones near you making your heart feel glad.

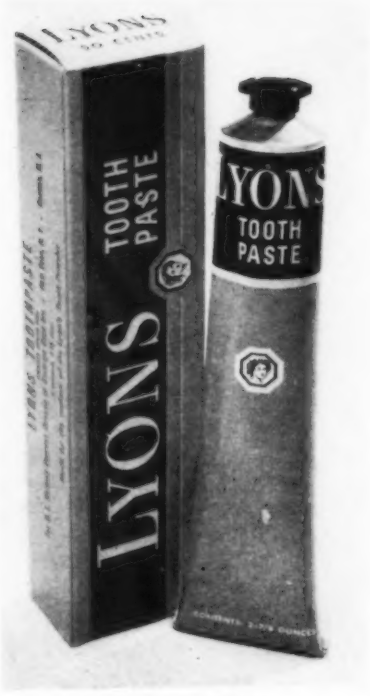
You have helped make our holidays happy. Thank you for all your friendship.

***Merry Christmas! A Good New Year!***

**Norda** *Essential Oil and Chemical Company, Inc.*

601 West 26th Street, New York 1, N. Y.

CHICAGO • LOS ANGELES • ST. PAUL • MONTREAL • TORONTO • HAVANA • MEXICO CITY • LONDON




**NEW LYONS DENTRIFICE:**—A new dentifrice is now packaged as a paste in tube form. A soapless detergent and aluminum hydroxide have been added and are said to achieve a high polishing action. The toothpaste is a product of R. L. Watkins Co., division of Sterling Drug, Inc., New York.

## Super Marketers Meet

Coupons have always been very helpful in enabling retailers to increase turnover, James A. Reilly, vice-president of Colgate-Palmolive-Peet Co., Jersey City, declared in addressing the 10th annual convention of the Super Market Institute in Chicago last month. Moreover, he added, coupons assure the distributor of volume turnover for a considerable length of time following the campaign. On most coupon operations, distributors get their regular profit on merchandise sold, he pointed out, and in the case of C-P-P and others in the soap industry, the dealer is paid an additional one cent per coupon handling charge, which offsets handling and accounting costs involved.

Discussing "Retailer Cooperation in Special Promotions," Mr. Reilly offered suggestions for capitalizing on coupon offers, also for increasing turnover on "one cent sales," "combination sales," and "over-the-counter" premium offers. Referring to the "headaches" suffered by dealers, Mr. Reilly declared it to be his belief that "most manufacturers, who have been putting on such promotions, should seriously consider the dealer's problems and try to fit their special promotions into these problems, so that they are minimized." The manufacturer, he declared, has definite obligations to the distributor during special promotions and trouble at the dealer's end of the line ultimately comes to the manufacturer. "The manufacturer," he declared, "should, and I believe most manufacturers do, make extra compensation for the extra work required from the distributor on a comparable and equal basis for all."

Among soap manufacturers occupying booths at the Super Market trade show were Colgate-Palmolive-Peet Co., Lever Bros. Co., Cambridge, Mass., Procter & Gamble Co., Cincinnati, and the Allen B. Wrisley Co., Chicago.

Wax manufacturers were represented by Wilbert Products Co., New York, and S. C. Johnson & Son, Inc., Racine, Wis. Oakite Products, Inc., New York, also presented a display of their household cleaning products.

## Fortune Describes Unilever

A series of three Fortune articles describes Lever Brothers and Unilever, Ltd., the world's largest corporation outside the United States. The first article, entitled "The Heritage," appears in the December issue of Fortune and describes the growth of the Dutch and English companies that make up the combine.

## CDCA Xmas Party

The 45th annual Chirstmas stag party of the Chicago Drug & Chemical Association is being held December 18th at the Gold Coast Room of the Drake Hotel, Chicago. The event features a cocktail party, dinner and show. Gerald F. Pauley, Monsanto Chemical Co., Chicago, and Ralph A. Olson, S. B. Penick & Co., Chicago are co-chairmen of the banquet and entertainment committee.

## W. J. Peet's Widow Dies

Mrs. Catherine A. Peet, 74, widow of William J. Peet, a former partner in Peet Brothers Manufacturing Co., now Colgate-Palmolive-Peet Co., Jersey City, N. J., died in Seattle, Nov. 2. A native of Weston, Mo., Mrs. Peet went to live in Seattle in 1929. Her husband died in 1910 in Kansas City, Mo.

## Lambert Elects Williams

Edward T. T. Williams, president of Lambert Pharmacal Co., St. Louis, has been elected a director of the company, succeeding Robert L. Lund, president of St. Louis College of Pharmacy, who retired, it was announced Dec. 5.

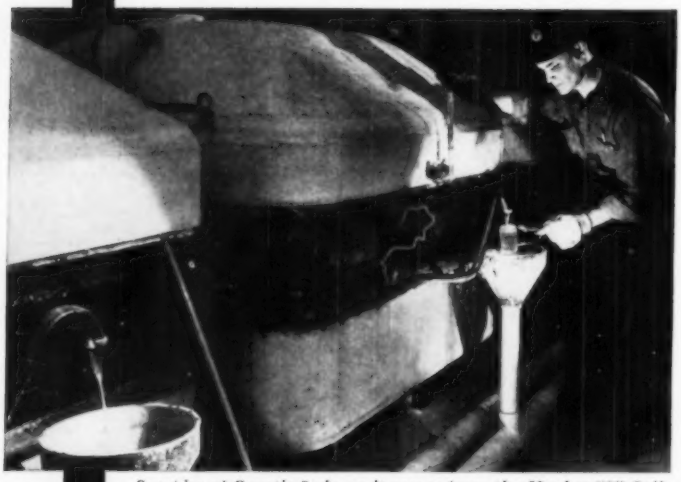
## Soap Associations To Meet

**The Association of Soap & Glycerine Producers, New York, will hold its first two-day meeting Wednesday and Thursday, January 28 and 29, at the Waldorf-Astoria Hotel, New York. On Wednesday morning there will be a discussion of the business outlook and any new regulations affecting the industry growing out of Washington decisions on aid to Europe. At lunch, Dr. Morris Fishbein, secretary of the American Medical Association will speak on "Cleanliness and Health." In the afternoon, Association directors, committees and staff will report plans to provide members in 1948 with new services. Election of officers will be followed by a reception by the Periodical Publishers Association.**

**Group sessions will be held simultaneously on Thursday morning; one on soaps and detergents for laundries, dry cleaning and textile mills; one on packages; one on potash soaps; one on glycerine and synthetic glycerine. The new 1948 president of the association will address the group at lunch. In the afternoon, a general meeting will discuss fats and oils, other materials in short supply and synthetic detergents. The convention ends with an evening reception, and banquet. Speaker for the banquet has not yet been announced.**

**The Potash Soap Association also meets in New York on Tuesday, January 27, 1948. For details of the program, see our previous issue.**

# *Three Hooker Chemicals That Help Make Thousands*



*Samples of Caustic Soda, as it comes from the Hooker "S" Cell, are checked carefully in the laboratory for strength and purity.*

✓ **LIQUID CHLORINE**
✓ **CAUSTIC SODA**
✓ **MURIATIC ACID**

Hooker chemicals numbering over a hundred, and thousands of other products get their start from Caustic Soda, Liquid Chlorine and Muriatic Acid made by Hooker. Your supplies of these basic heavy chemicals are made possible to a large extent by the Hooker Type "S" electrolytic cell, designed and developed by our own engineers.

Caustic Soda, Liquid Chlorine and Muriatic Acid are produced and shipped from our plants at Niagara Falls, New York, and Tacoma, Washington. Helpful technical service and prompt shipping are corollary to the uniform high quality of these Hooker products.

Data sheets and other literature describing Hooker Chemicals are available upon request. If you don't have our latest General Products List, Bulletin 100, why not write today for your copy?

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Aluminum Chloride  Paradichlorbenzene  Monochlorbenzene  Sodium Benzoate  Sulfur Chlorides  Sodium Sulfide  Sodium Sulfhydrate

## Perfume Course at NYU

Capacity registration has been recorded in the course in aromatics, newly established this fall by New York University's Division of General Education. The course, given in the university's adult program, is intended for commercial purchasers and others in the perfumery business. It meets each week on Tuesday evenings under the direction of Samuel Klein, perfumer for Synfleur, Inc., New York. The program, which emphasizes the development of discriminating olfactory perception in an overall study of the aromatics field, features several experts as guest lecturers.

A. L. Van Ameringen, Van Ameringen Haebler Company, New York, addressed the group on November 18. His topic was "Characteristics of Good Perfume." He was followed by Dr. A. Paccini, Prince Matchabelli Inc., New York, who spoke on "Practical Aspects of Perfumes in Cosmetics and Toilet Preparations." Other speakers include George Tombak, E. I. DuPont de Nemours, Inc., New York, who will talk on the "Industrial Application of Odor"; William Dunney, Ungerer & Company, New York, who will speak on "The Perfumer at Work"; and Philip Chaleyer, who will discuss the "Structure of Perfume."

## Horn Advances Sinisi

The appointment of Vincent L. Sinisi as sales manager of the building materials division of A. C. Horn Co., Long Island City, N. Y., subsidiary of Sun Chemical Corp., New York, was announced in October. Mr. Sinisi has been a member of the Horn sales department since 1933. Products of the company include cleaning materials.

## Benares Univ. 25th Year

Benares Hindu University, India, where considerable emphasis is placed on education along the lines of oils and soap technology, celebrated the silver jubilee of its College of Technology, December 12th, 1947, according to Dr. Sadgopal of the industrial chemistry department. The Honorable Shri B. G. Kher, Premier, Government of Bombay, offered the inaugural address. The institution offers both the M. Sc. and D. Sc. degrees in oils and soaps as well as the B. Sc. degree in industrial chemistry and diploma in oils, soaps and cosmetics.

Benjamin d'Ancona, secretary of Polak & Schwarz, Inc., New York and formerly head of the perfume division of Polak & Schwarz, Paris, shown in a recent visit to the newly-established midwestern branch in Chicago. With Mr. d'Ancona are George Liddell, general manager of the midwestern branch; Gustav Carsch, perfumer; and Kenneth Overturf, salesman.

## Plans Chemical Expos.

The Chicago section of the American Chemical Society has started work on plans for its fifth National Chemical Exposition, which will be held Oct. 12 through 16, 1948, in the Chicago Coliseum. Marcus W. Hinson, exposition manager, has announced former exhibitors will receive floor plans by Jan. 5, 1948, and after they make their selections any remaining space will be offered to others. Exposition offices have been opened at 1513 S. Wabash Ave., Chicago 5, Ill.

## Stresses Plant Safety

The accident prevention program of Lever Bros. Co., Cambridge, Mass., was the subject of an article by Charles Luckman, president, which appeared in *National Safety News* for October. From 1933 to 1946 Lever's accident frequency rates have been more than 70 per cent below the average rates for the soap industry. Mr. Luckman related how this was made possible by encouraging participation of every employee in committee work. Management, Mr. Luckman declared, must recognize that accident prevention is both morally right and financially vital, but that real success will not be achieved until plant superintendents, foremen and workers are constantly conscious of their responsibilities for preventing accidents.

## New Toni Cream Shampoo

A new cream shampoo product recently introduced by Toni Co., St. Paul, is being distributed in the company's west coast area. The shampoo, made with lanolin, is offered in two-ounce tubes retailing for 49 cents, and four-ounce jars which sell at 95 cents. Introduction of "Toni Creme Shampoo" followed consumer tests carried on during the past year in Minnesota.

## Ayer Names Consultant

Harriet Hubbard Ayer, Inc., New York, recently named Mrs. Edythe Belmont as retail consultant. For the past twelve years, she had been associated with Bonwit Teller, Inc., New York, as merchandise manager and promotion director of cosmetics, accessories, etc. Prior to that, she was a merchandising manager for Best & Co., New York, and at one time, for R. H. Macy & Co., New York.

## Plaskon Appoints Two

Carleton Ellis, Jr. was recently named director of purchases by Plaskon Division, Libbey-Owens-Ford Glass Co., Toledo. Mr. Ellis joined Plaskon in 1936 when it was merged with Unyte Corp. with which he had been associated from 1933. He has been district sales manager in Chicago and Washington and more recently manager of the plant's new products department.

Appointed as assistant chief engineer was Lester L. Bauer, recently associated with Procter & Gamble Manufacturing Co., Dallas, as plant engineer.

SEASON'S GREETINGS

*To our many friends*
*we extend best wishes*
*for Christmas and the*
*New Year*

# GEORGE LUEDERS & CO.

427-29 WASHINGTON STREET NEW YORK 13, N. Y.

Branches: Chicago, San Francisco, Montreal

REPRESENTATIVES: Los Angeles, Philadelphia, St. Louis, Toronto, Canada, Winnipeg, Canada, Waukesha, Wisc.

One of America's Pioneer Importers and Manufacturers of Essential Oils and Aromatics

# NEW TRADE MARKS

**The following trade-marks were published in the November issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.**

## Trade Mark Applications

AMOCO KLEENZIT—This in upper case, block and italic letters for synthetic detergent as all-purpose household cleaner. Filed Sept. 30, 1946 by American Oil Co., Baltimore. Claims use since July 31, 1946.

PURA SUDS—This in lower case, extra bold, black letters for washing preparation for household use. Filed Dec. 13, 1946 by Phipps Products Co., Boston. Claims use since Oct. 1, 1946.

FOAM-MIX—This in upper case, lined letters for household cleaner. Filed Dec. 15, 1946 by Foam-Mix Products Co., Buffalo, N. Y. Claims use since Nov. 8, 1946.

LINSOAP—This in upper case, bold letters for linseed oil soap for general cleaning. Filed Jan. 19, 1947 by Hockaday, Inc. Chicago. Claims use since 1920.

CYRO—This in upper case, bold, open letters for powdered hand soap. Filed Jan. 15, 1947 by Roy Spivey, Tuscaloosa, Ala. Claims use since Nov. 1, 1946.

PLAZE—This in upper case, extra bold, black letters for liquid and paste materials for cleaning and polishing metal, etc. Filed Jan. 31, 1947 by Plaz, Inc., St. Louis. Claims use since Jan. 6, 1947.

SHAMITEX—This in upper case, bold letters for liquid impregnated paper for dusting, cleaning and polishing furniture and other varnished and painted surfaces. Filed Feb. 3, 1947 by Shamitex, Baltimore, Md. Claims use since April, 1934.

GENTRIE—This in upper and lower case, bold, script letters for hand and shaving soap. Filed Feb. 7, 1947 by Lenel Co., Dallas, Tex. Claims use since Jan. 21, 1946.

VICTOR—This in upper case, bold letters across a large "V" for poisons for insects, rodents and other pests. Filed Mar. 27, 1946 by Animal Trap Co. of America, Lititz, Pa. Claims use since Feb. 11, 1946.

V—This in over-size, open letter for poisons for rodents. Filed Apr. 3, 1946 by Animal Trap Co. of America, Lititz, Pa. Claims use since Feb. 11, 1946.

DAIT—This in upper case, extra bold letters for shampoo. Filed June 14, 1946 by Glam-R-Girl Cosmetic Co., Chicago. Claims use since Jan. 18.

ALICE LOU—This in upper case, extra bold letters for shampoo. Filed Oct. 16, 1946 by La Jean Product Co., Meridian, Miss. Claims use since 1928.

PHENYL-MERCIUM—This in upper case, medium bold letters for germicidal solution for surgical instrument sterilization. Filed Jan. 6, 1947 by Harbo Co., Kansas City, Kans. Claims use since June 15, 1946.

LIP-TRIC—This in upper and lower case, bold, script letters for liquid lip cleaner. Filed Feb. 15, 1947 by Civray, Inc., New York. Claims use since Nov. 16, 1946.

INHIBAC—This in upper case, extra bold letters for disinfectant in powdered or liquid form containing a quaternary ammonium salts compound with or without cleaning agents. Filed Mar. 5. 1947 by Chemical Corp., Springfield, Mass. Claims use since Feb. 20, 1947.

INDUSPRAY—This in upper and lower case, bold, script letters for insecticides. Filed Apr. 4, 1947 by Tanglefoot Co., Grand Rapids, Mich. Claims use since Aug. 20, 1946.

REZECT—This in upper case, medium bold letters for chemical toxicants for use as mothproofing agents on textiles, etc. Filed June 4, 1947 by Monsanto Chemical Co., St. Louis. Claims use since Apr. 23, 1947.

SCOTCH BOURBON RYE—This in upper case, bold letters for shampoo. Filed June 21, 1947 by Dermetics, Inc., New York. Claims use since May 20, 1947.

CCCC—This in upper case, bold letters, one letter within another for insect repellent. Filed July 2, 1947 by Carbide and Carbon Chemicals Corp., New York. Claims use since July, 1945.

BEAUTYKOTE—This in upper and lower case, bold letters for automobile cleaner. Filed Aug. 9, 1946 by Beautykote Corp., Newark, N. J. Claims use since July 12, 1946.

MIRACOTE—This in upper case, medium bold letters for polishing powder. Filed Sept. 27, 1946 by Carl Johnsen Co., Dallas, Tex. Claims use since May 20, 1946.

TRIPLE X—This in upper case, bold, stencil letters for detergent compound for use in dishwashing machines. Filed Oct. 11, 1946 by A. V. De Marco, Chicago. Claims use since Mar. 21, 1945.

JUNGLE—This in upper case, extra bold, black letters for silver polish. Filed Oct. 12, 1946 by Consolidated Cosmetics, Chicago. Claims use since June 10, 1946.

BOTANY—This in upper case, extra bold, italic letters for soap and brushless shave cream. Filed Nov. 14, 1946 by Botany Mills, Inc., Passaic, N. J. Claims use since Sept. 6, 1939 on soap and since Oct. 25, 1946 on brushless shave cream.

ODALISQUE—This in upper and lower case, bold, script letters for toilet soap. Filed Mar. 7, 1947 by Nettie Rosenstein, Inc., New York. Claims use since Feb. 11, 1947.

SHINING HOUR—This in upper and lower case, medium bold, script letters for bath soaps. Filed Mar. 25, 1947 by Jacqueline Cochran, New York. Claims use since Aug. 26, 1941.

ATTAK—This in upper case, extra bold, black letters for cleaning preparation for fabrics and household use. Filed Apr. 6, 1947 by Household Aide Co., San Francisco. Claims use since Dec. 30, 1946.

WASH DAY—This in upper case, extra bold letters for soap. Filed Apr. 28, 1947 by Self and Co., Birmingham, Ala. Claims use since Aug. 1, 1946.

NITRENE—This in large and small, upper case letters on a sharp angle and running between two lines formed by extending the base of the final "e" back to and under the first "n" and by continuing the final upright line of the first "n" across the tops of the other letters in the word, for toilet bowl cleanser. Filed May 19, 1947 by Tennessee Supply Co., Greeneville, Tenn. Claims use since May 11, 1944.

GARDA—This in upper case, medium bold letters for soaps. Filed July 1, 1947 by J. R. Watkins Co., Winona, Minn. Claims use since June 28, 1935.

TERMI NATE—This in large and small, upper and lower case letters for insecticides. Filed May 31, 1946 by Eason Morgan Co., Nashville, Tenn. Claims use since Apr. 1, 1946.

KAY DAUMIT—This in upper and lower case, bold, script letters for shampoos. Filed June 15, 1946 by Kay Daumit, Inc., Chicago. Claims use since Mar. 2, 1942. Reverse representation of a cotton ball for hair shampoo. Filed Oct. 19, 1946 by MacGregor & Co., New York. Claims use since Oct. 1, 1946.

FLORIDAIRE—This in upper case, open letters for general household deodorant. Filed Nov. 4, 1946 by Floridaire Co., Miami, Fla. Claims use since Sept. 1, 1946.

SUPER-X—This in upper case, bold italic letters for preparation for removing soot and carbon. Filed Nov. 7, 1946 by Brooks Boiler Treatment Co., Cleveland. Claims use since 1941.

MAISON MARIE—This in upper case, bold letters on a lined rectangular background for shampoos. Filed Feb. 18, 1947 by Fred Meier, Butte, Mont. Claims use since Aug. 15, 1944.

ORSECO—This in upper and lower case, bold, script letters for insecticide. Filed Mar. 21, 1947 by Organic Chemicals Corp., Frederick, Md. Claims use since Feb. 11, 1947.

BIOCIDE—This in upper case, medium bold letters for chemical toxicants for use as insecticides. Filed Apr. 21, 1947 by Monsanto Chemical Co., St. Louis. Claims use since Sept. 25, 1946.

MEKON—This in upper case, extra bold, stencil leters for microcrystalline wax. Filed Apr. 21, 1947 by Warwick Wax Co., New York. Claims use since Jan. 17, 1946.

ARDENA FLUFFY MILK BATH PETALS—This in upper case, bold letters for bubble bath preparation. Filed May 6, 1947 by Elizabeth Arden Sales Corp., New York. Claims use since Jan. 4, 1946.

ORONITE
CHEMICALS
Reg. U. S. Pat. Off.

THE NAME TO WATCH IN CHEMICALS

# INVESTIGATE ORONITE POLYBUTENES

Oronite Polybutenes are available in eight grades of viscosity, carefully engineered and application tested to meet exacting requirements. They have many diverse applications, either by themselves or with other materials, for the modifying effects they produce. They are highly compatible with other compounds. A few of the advantages are: tackiness, highly stable and resistant to oxidation, high dielectric strength, low power factor, great adhesiveness, good moisture resistance. An inquiry as to specific use will bring prompt reply.

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**ELECTRICAL**

(a) Impregnation of paper insulation
(b) Liquid insulated conductors
(c) Liquid dielectric in variable condensers

**ADHESIVES**

(a) Formulations of adhesives
(b) Formulations of industrial tapes and surgical tape masses
(c) Formulations of colorless label adhesives
(d) Formulations of leather cements

**RUBBER**

(a) Emulsions for extenders and modifyers of latex
(b) Softener for rubber compounds
(c) Increased tackiness for rubber base cements
(d) Plasticizer for rubber milling

**WATERPROOFING**

(a) Formulations of waterproof coatings for porous materials, soaps, waxes, resins

**INKS**

(a) Formulations of paste inks and cartridge inks

**LEATHER**

(a) Emulsions for moisture proofing and pliability

**INSECTICIDES**

(a) For moisture resistance and tackiness

**SHOCK ABSORBERS**

(a) Hydraulic fluids

**METALLURGICAL PRODUCTS**

(a) Extrusion processing, improves moulding powders, withstands high operating temperatures, non-charring, clean burn-off

**ORONITE CHEMICAL COMPANY**

200 Bush St., San Francisco 4 • 30 Rockefeller Plaza, New York 20 • Standard Oil Bldg., Los Angeles 15 • Chicago, Ill.

QET—This in upper case, extra bold, black letters for surface active agent for addition to cleaning preparations to reduce surface tension. Filed June 12, 1947 by Pacific Chemical Co., Los Angeles. Claims use since May 5, 1947.

TRI-6 No. 50W—This in upper case, extra bold letters for insecticides. Filed June 12, 1947 by Thompson-Hayward Chemical Co., Kansas City, Mo. Claims use since Apr. 5, 1947.

BLUE ROSE—This in upper case, extra bold, script letters for shampoo. Filed July 2, 1947 by Lanchere, Inc. Chicago. Claims use since Mar. 26, 1912. Red, white and blue diagonal striped carton for shaving preparation. Filed Dec. 22, 1944 by Barbasol Co., Indianapolis, Ind. Claims use since Mar., 1930.

TWOSOME—This in upper and lower case, bold, script letters for hand cream cleanser. Filed Sept. 28, 1946 by Jon James, Inc., Chicago. Claims use since Sept. 1, 1945.

LABROTEX—This in upper case, extra bold letters for synthetic detergent for use in wet washing of textiles. Filed Nov. 9, 1946 by Dettelbach Co., Atlanta. Claims use since Aug. 1, 1946.

C & S—This in upper case, extra bold, letters for hand cleaner in paste form. Filed Dec. 11, 1946 by James T. Jones, St. Louis County, Mo. Claims use since Mar. 2, 1946.

RPM—This in upper case, reverse letters, part of a whirling design from which wings extend at the top for cleaning solvents for general household, commercial and industrial cleaning. Filed Apr. 18, 1947 by Standard Oil Co. of California, Wilmington, Del. Claims use since Feb. 3, 1947.

PANASUDS—This in upper case, extra bold letters for bath soaps and perfumed soaps. Filed Apr. 25, 1947 by Jacqueline Cochran, New York. Claims use since Mar. 31, 1947.

HDD—This in upper case, bold, open letters for cleaning compound in powdered and flake form for walls, floors, woodwork and other flat surfaces. Filed May 26, 1947 by Nivram Manufacturing Co., Kansas City, Mo. Claims use since Mar. 10, 1947.

PURSUIT—This in upper and lower case, bold letters for cleaning preparation for the removal of stains caused by paints, lipstick, grease, etc. Filed by H. D. Dunaway & Co., Atlanta, Ga. Claims use since Mar. 1, 1946.

AMACO—This in upper case, bold letters as part of a design for shampoos, tooth paste and tooth powder. Filed Aug. 30, 1946 by Amaco Laboratories, Amarillo, Tex. Claims use since July 20, 1946.

MELDORIS—This in upper and lower case, bold, script letters for coconut oil shampoo. Filed Nov. 8, 1946 by Kolar Laboratories, Inc. Chicago. Claims use since Jan. 2, 1921.

TABOO—This in upper case, medium bold letters for insecticides. Filed Nov. 22, 1946 by Consolidated Cosmetics, Chicago. Claims use since Nov. 14, 1946.

HUNTO-PINE—This in upper and lower case, bold letters for pine oil disinfectant. Filed Apr. 15, 1947 by Huntington Laboratories, Inc., Huntington, Ind. Claims use since Oct. 15, 1920.

## Detergent Symposium Held

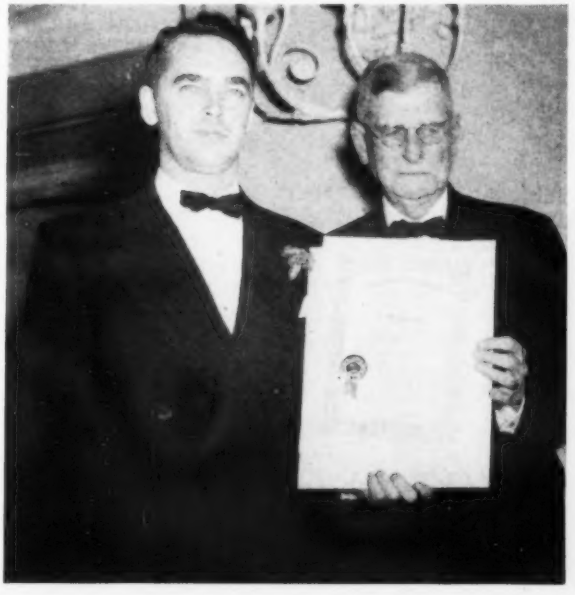
A symposium on "Old and New Detergents" was part of the program of the November 13th meeting of the northeastern section of the American Chemical Society held at Mass. Institute of Technology, Cambridge, Mass. Chairman of the symposium was John L. Oncley, Harvard Univ., Cambridge, Mass., and speakers were Frederick L. Matthews, Jr., Monsanto Chemical Co., Everett, Mass., Lawrence Fleet, National Aniline Div., Allied Chemical & Dye Corp., New York; and Llewellyn B. Parsons, Lever Brothers Co., Cambridge, Mass.

An annual production of three billion pounds of synthetic detergents within the next ten years, was made by Dr. Lawrence H. Flett, National Aniline division, Allied Chemical & Dye Corp., New York. He estimated production of detergents for 1947 will be about three hundred million pounds or about 7.5% of the expected total soap production.

In explaining how the sales development of synthetic detergents is being actively promoted in industrial, agricultural and household fields, Dr. Flett said (in speaking of synthetic chemicals in general) that synthetics do not drive natural products off the market but, on the contrary, the natural products are generally sold in greater quantities even after their production has been surpassed by that of the synthetics. He predicted that the consumption of conventional soaps should continue to increase since there are many large areas in which per capita use is far below the average. However, chemical manufacturers of synthetic detergents, invading the household field, may soon boost their percentage. Dr. Flett stressed how rapidly the synthetic detergent industry had grown in spite of wartime delays stating that with the possible exception of snythetic rubber, no chemical has ever enjoyed such a rapid market development. He also inferred a wider use for the synthetic detergents by stating "every time a chemist has synthesized chemicals to do the work of natural products, it has been possible to develop synthetics which have a far wider use than the natural products."

## CSA Xmas Party

The 26th annual Christmas party of the Salesmen's Association of the American Chemical Industry, Inc., was held the night of Dec. 17 in the grand ballroom of the Hotel Pennsylvania, New York. A cocktail party preceded the dinner. Edward A. Bush of Bush Aromatics, Inc., New York, was chairman of the dinner committee.



**David E. Ketner, left, assistant advertising manager of Lever Bros., Cambridge, Mass., receiving a "Certificate of Public Service" for "Lifebuoy" soap from Edward S. Rogers, chairman of the boards of Sterling Drug Co. and Brand Names Foundation. The award cited "Lifebuoy" for holding "public confidence through unfailing integrity, reliable quality and fair pricing." Ceremony was held Nov. 25 at the Hotel Statler, Boston.**

# TONKA-MEL

***for body and sweetness***

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# BIDS AND AWARDS

## Treasury Cleaning Bids

DuBois Co., Washington, D. C., submitted the low bid of $1.40 on 110 gallons of cleaning and conditioning compound in a recent opening for miscellaneous supplies by the Bureau of Federal Supply, U. S. Treasury Department, Washington, D. C. The other bid received in the opening, that of Vestal, Inc., Washington, D. C., was $2.05.

## Shoe Polish Bids

Boyer & Co., Philadelphia, submitted the low bid of 5.85 cents on a 1¾ ounce container of shoe polish in a recent opening for miscellaneous supplies on 400 containers shoe polish. Other bids in the same opening were those of: American Polish Co., Chicago, who bid 5.85 cents on a 1¾ ounce container and an alternate bid of 8.7 cents on 3½ ounce container; Charles M. Hatcher Manufacturing Co., Philadelphia, 9 cents for a 3½ ounce container and Whittemore Brothers Corp., Cambridge, Mass., 8 cents for a 2½ ounce container.

## Treas. Dept. Wax Bids

The following bids on 19,635 gallons of floor wax were received in a recent opening for miscellaneous supplies by the Federal Bureau of Supplies, U. S. Treasury Department, Washington, D. C.: Phipps Products Co., Boston, $1.15 a gallon; Jones Products Co., Cambridge, Mass., $1.10; Buckingham Wax Co., Long Island City, N. Y., 68.5 cents; Manhattan Lighting Equipment Co., New York, $1.05; Liquid Veneer Co., Washington, $1.15; Sherwin-Williams Co., Washington, D. C., 92 cents; Vestal, Inc., St. Louis, $1.02; Flexrock Co., Philadelphia, $1.50; Lanier Chemical Co., Chicago, $1.73; Oil Specialties & Refining Co., Brooklyn, 67.9 cents; Baltimore Paint & Color Works, Baltimore, 91 cents; Trio Chemical Works, Brooklyn, 59 cents; R. M. Hollingshead Corp., Camden, N. J., 73 cents; Boyle-Midway Co., New York, 74.9 cents; A. C. Horn Co., Long Island City, N. Y., $2.40; International Metal Polish Co., Indianapolis, 98 cents; E. I. du Pont de Nemours & Co., Philadelphia, $1.24; Lasting Products Co., Baltimore, $1.07; Standard Disinfectant Co., Memphis, 87 cents; N. J. Chemical Co., Newark, N. J., $1.21; Janitors Supply House, Baltimore, 73 cents a gallon; Bri-Test, Inc., Bronx, N. Y., 60 cents; Floorcraft Laboratories, Chicago, $1.35; Windsor Wax Co., Hoboken, N. J., 87 cents drums included; Huntington Laboratories, Huntington, Ind., $1.80; Pur-All Paint Products Co., Bronx, N. Y., 80 cents; C. M. C. Laboratories, New York, 84 cents and Majestic Products Co., Philadelphia, 69.8 cents.

## Supply Bureau Polish Bids

The following bids were received on two quantities of disinfectant consisting of item 1 (51D-392), 324 gallons and item 2 (51D-394), 6,600 gallons, in a recent opening for miscellaneous supplies by the Bureau of Federal Supplies, Treasury Department, Washington, D. C.: James Huggins & Son, Malden, Mass., item 1, 60 cents, item 2, 50 cents; Selig Co., Atlanta, item 1, $1.19, item 2, 99 cents; Baird & McGuire, Holbrook, Mass., item 1, 73 cents, item 2, 53 cents; Virginia Specialty Corp., Lynchburg, Va., item 1, 80 cents, item 2, 75 cents; R. M. Hollingshead Corp., Camden, N. J., item 1, 84 cents, item 2, 45 cents, as specified for award of both items; A. M. R. Chemical Co., Brooklyn, item 1, $1.05, item 2, 85 cents; Fine Organics, New York, item 1, 99.53 cents and item 2, 94.83 cents.

## Treas. Dept. Cleanser Bids

In a recent opening for miscellaneous supplies by the Bureau of Federal Supply, Treasury Department, Washington, D. C., the following bids were received on, item 1(51P-2546), 336 pounds of sanitation powder; item 2 (51P-2550), 4,800 pounds of scouring powder; item 3 (51P-2560), 10,800 pounds of scouring compound; item 4 (51S-1934), 14,000 pounds of toilet soap; Lanair Chemical Corp., Chicago, item 4, 30-35 cents, in 180 pound containers; Pacific Coast Borax Co., Los Angeles, item 4, 15.33 cents, alternate, borax compound for dispensers, packaged in case of six, five-pound packages; N. Brittingham & Sons, Philadelphia, item 1, 23 cents; Dorsett-Jones, Baltimore, item 3, 5.4 cents; Selig Co., Atlanta, item 1, 51 cents; Sanitary Soap Co., Paterson, N. J., item 4, 13 cents "Antiseptic Velvo"; American Soap & Washoline Co., Cohoes, N. Y., item 2, 5.84 cents; item 3, 2.88 cents; Marjo Products Co., Chicago, item 1, 18 cents, item 2, 7.5 cents and item 3, 3.85 cents; Huntington Laboratories, Huntington, Ind., item 1, 23 cents; Aldan Chemical Enterprises, Chester, item 2, 15.1 cents, item 3, 7.6 cents; Phipps Products, Boston, item 3, 6.7 cents; Bond Sanitary Products Co., York, Pa., item 1, 13 cents; Pal Products Manufacturing Corp., Brooklyn, item 2, 5.8 cents, item 3, 3 cents; Beam Supply Co., New York, item 2, 6.7 cents, item 3, 4.98 cents.

## Scouring Compound Bids

In a recent opening for miscellaneous supplies by the Treasury Department, Washington, D. C., the following bids were received on, item 1 (51P-2560), 7,500 pounds of scouring compound and item 2 (51P-2565), 7,500 pounds of scouring compound: Chemical Manufacturing & Distributing Co., Easton, Pa., item 2, 3.28 cents; Pal Products Manufacturing, Brooklyn, item 1, 3 cents and item 2, 2.7 cents; Procter & Gamble Distributing Co., Baltimore, item 1, 5.022 cents, in 350 pound barrels, item 2, 5.022 cents.

## P & G Safety Contest

Procter & Gamble Co.'s Macon factory led all plants in the company-wide safety contest with a zero frequency rate, meaning no lost-time accidents, for the first seven months of 1947. Kansas City was second with a frequency rate of 1.5; Long Beach third, with a 3.3 rate; Dallas fourth with 5.0 and Hamilton fifth with 7.4. Plaques will be awarded the two plants with the best safety records for the year.

W H&C Co INC

Est. 1838

Olive Oil
Neatsfoot Oil
Coconut Oil
Cottonseed Oil
Palm Kernel Oil
Stearic Acid
Oleo Stearine
Soya Bean Oil
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Sesame Oil
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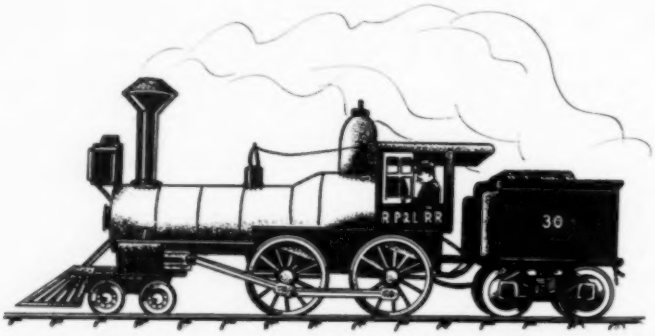
Palm Oil
Corn Oil
Peanut Oil
Grease
Tallow
Red Oil
White Olein
Fatty Acids
Soap Colors
Chlorophyll
Soda Ash
Sal Soda
Talc
Caustic Potash
Caustic Soda
"CEREPS"
Superfat

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*a stable polyphosphate for water conditioning and mild but effective detergency*
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THE MAYPONS—Unique surface active agents; prolific foam; high detergency and emulsifying powers; suitable for cosmetic and industrial use.

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WELCH, HOLME & CLARK COMPANY, Inc.

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***Warehouses: New York, N. Y. — Newark, N. J.***

# RAW MATERIAL MARKETS

**As of December 1, 1947**

OMITTING the details, for the moment, current headlines tell the story of the fats and oils outlook for the next year if not longer. The following are two fair samples: "IEFC Sees Fats Short Until 1950" and "Sees High Fats, Oils Prices in 1948." For the immediate future, 1948 in particular, the U. S. Dept. of Agriculture predicts that production of domestic (U. S.) vegetable oils in the crop year Oct., 1947-1948, will be higher than in the comparable 1946-47 period. Production of animal fats during the coming year will shrink, as against 1946-47 output, the USDA reports.

Prices, which are currently at or near record levels for most fats and oils, are expected to continue at high levels for sometime to come because of world-wide shortages and a corresponding high demand. Fancy grade tallow was selling for 27 cents a pound on the last days of November, which represents an advance of about three cents for the month. At its current level tallow is selling for about a cent less than at the all-time peak set early last spring. Other important soap making oils and fats have advanced correspondingly. Crude coconut oil, c.i.f. West Coast, was reported as selling for 25-26 cents a pound for immediate delivery late last month.

As a result of oils and fats price increases, four of the major soap producers announced early last month that they were increasing glycerine prices by 10 to 10¾ cents a pound. This action, the first change in glycerine prices since last June, has brought the price level to the range of 39¼ to 40¾ cents a pound.

In discussing the long range fats and oils outlook, a report issued by the International Emergency Food Council recently indicated that the world shortage of basic fats and oils will continue until about 1950. According to IEFC officials, it is unlikely that world supplies of fats and oils will regain their prewar annual volume of 12,860,000 metric tons fat equivalent for the next three years, while world demand will approach 13,500,000 tons. World supplies might conceivably cover effective demand by 1950, but only if generous production estimates were taken for most high-producing countries simultaneoulsy. Conservatively estimated, a supply of between 12 and 13 million tons of fats and oils would make a deficit of about one million tons, depending on the situation in Germany, where an effective con-


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CHEMICAL SUPPLIES, Inc.
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FRITZSCHE BROTHERS, Inc., wishes you all

# A Merry Christmas *and a* Very Happy New Year

sumption of one million tons is assumed against 1,900,000 tons prewar.

Because of a diminution of supplies of fats and oils from North America during the latter part of 1948, as well as a reduction of animal fats, particularly, in Europe as a result of the general cereal and feed shortages from the 1947 harvest, the situation will become even more critical next year than was the case this year.

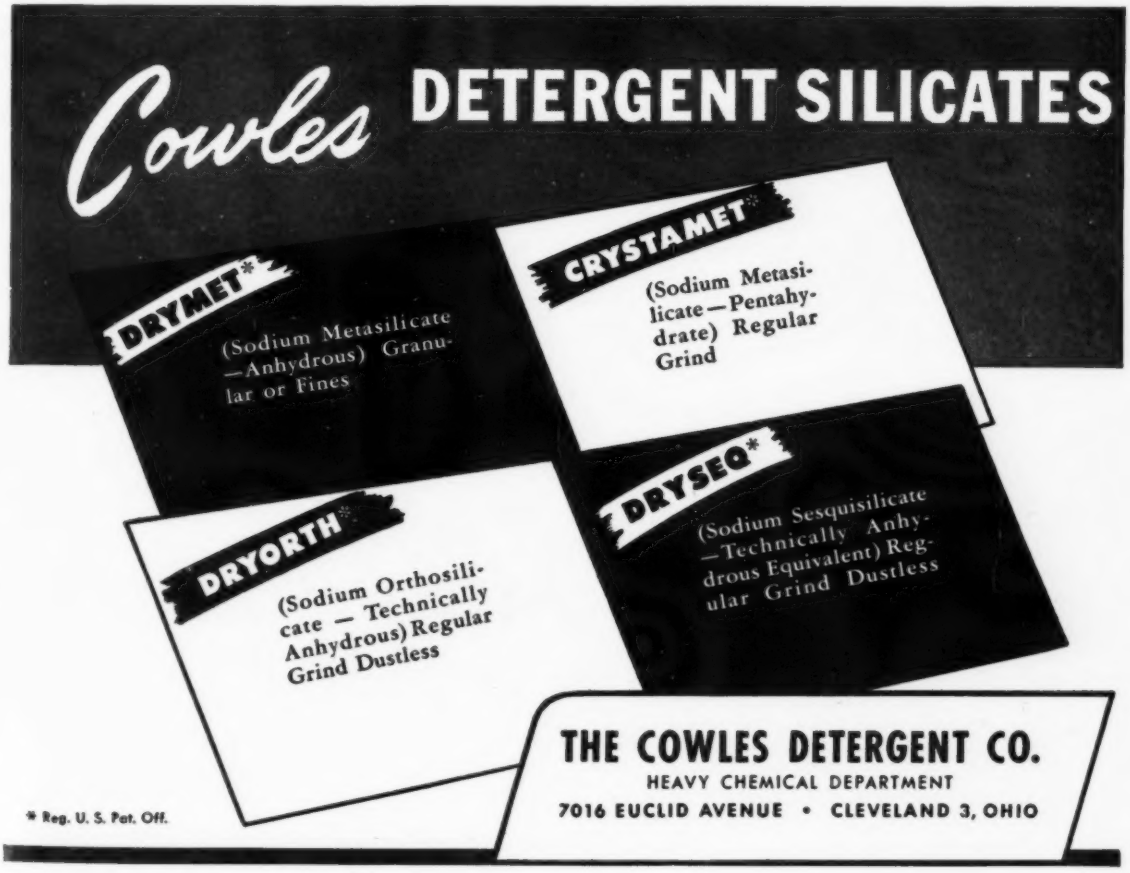
Production of fats and oils from domestic materials for the 1946-47 crop year, according to the Department of Commerce, reached 9.6 billion pounds, about the same rate of output as in 1941-42, the third highest in history. Under favorable circumstances, it is expected that the 1947-48 season could reach 9.9 billion pounds. During the first nine months of 1947 about one billion pounds of fats and oils were imported into the U. S., more than during the full years of 1946 and 1947, but still some 700 million pounds below the two billion pound prewar rate of imports. Copra imports through September, 1947 amounted to 610 million pounds, about 57 per cent of total receipts.

Moreover the 1948 outlook for copra exports from the Netherlands East Indies will be less than one-fifth of prewar, partly as a result of war damages and partly as a result of the unsettled economic and political conditions in the area, and palm oil exports, while greater than in 1947, will not be anywhere near the 430,000,000 pound prewar average for the years 1935-39.

Reversing most recent price tendencies, a reduction of 50 cents per gallon in the price of "Thanite," a toxicant for household insecticide sprays, was announced on Dec. 1 by Hercules Powder Co., Wilmington, Del. The new price schedule for gallons in the following quantities has been established: tank cars, $2.75; carload lots (80 drums minimum), $3.85; truck load lots (50 drums minimum), $3.85; five drums to truck load lots, $3.95; one to four drums, $4.05. All prices are f.o.b., Brunswick, Ga.

In its report to the industry, Fritzsche Bros., Inc., New York, on Nov. 14, stated that: "for the first time in more than a year the number of major (price) advances practically balances the number of (price) declines (on essential oils)." The report goes on to state: "most of the declines observable in the aromatic chemical field are traceable to declining costs of imported raw materials, principally essential oils, such as citronella, Bois de Rose, etc. This (the price decline) has not in general extended itself to those purely synthetic chemicals derived from coal tar bases. Furthermore, the prices of such products in contrast with essential oils advanced only nominally during the war and are therefore, much more vulnerable to bullish influence."

Added to the list of scarce items during the past month was shellac. The shortage is said to be the result of delayed shipments from India.



Cowles DETERGENT SILICATES
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CRYSTAMET*
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As we expand our production we plan not only to maintain this personal interest in our customers . . . but we will also expand it.
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PRODUCTION SECTION

# Continuous Process Soap Making

***A method for continuous fitting is described. Various claims for the process are summarized. Comments by a number of experts are offered.***

## Part III

IN the two previous issues of this section, a new process for soapmaking was described. The process, first presented by M. Lachampt in *Corps Gras*, January and February, 1947, and reviewed by M. J. Seemuller in the July 1947 issue of *Soap, Perfumery, and Cosmetics*, has for its objective the speeding up of the soap boiling process of saponification by causing measured portions of fats and caustic alkali to pass through a colloid mill where they are quickly emulsified to a state incipient to rapid saponification which then takes place in a reaction tube by means of a spray of steam.

The normal system of changes required to remove glycerine and salt from kettle-boiled soap is replaced with another which consists of eliminating the salt from the soap by means of an exchange with caustic soda. A system of continuously adjusting the soap to neutrality is described and methods are discussed for continuously controlling unsaponified matter or excess alkalinity as the case may be.

Mr. Seemuller's review of the process is concluded in this issue with a description of how the French process can be adapted to continuous fitting and with a number of statements regarding advantages claimed. Comments by experts here in the United States and abroad are offered.

### *Continuous Fitting*

AS a large number of soapmakers have criticized the abandonment of fitting proper, in the course of the operation described above, we have examined the possibility of carrying out this fitting continuously. This we arrived at as follows:

"Instead of effecting the purification of the soap in two stages:

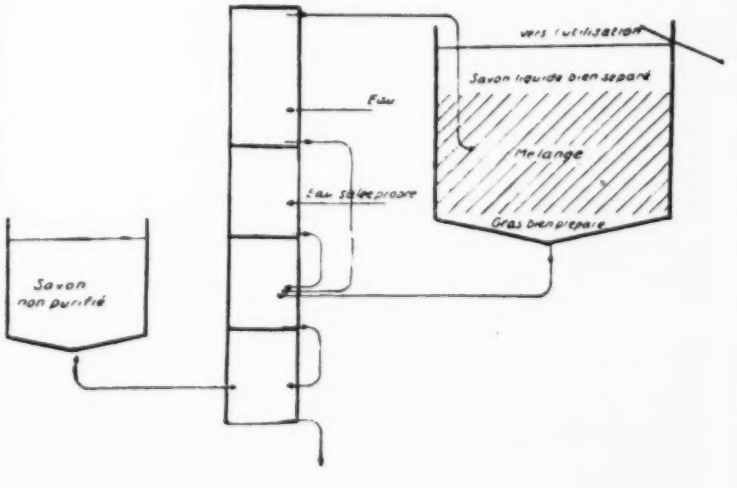
(1) washing with salt against the current;

(2) washing with soda against the current, then neutralizing the soap as shown in a previous diagram—the soap is washed against the current with brine of as low concentration as possible compatible with the soap remaining undissolved (just above the limiting lye); there is then added automatically to the decanted soap an amount of boiling water so that the constituents, water-salt-soap, are present in the same proportions as at the moment when the soapmaker has completed fitting, i.e. at the moment when steam is shut off from the tank where fitting has just taken place.

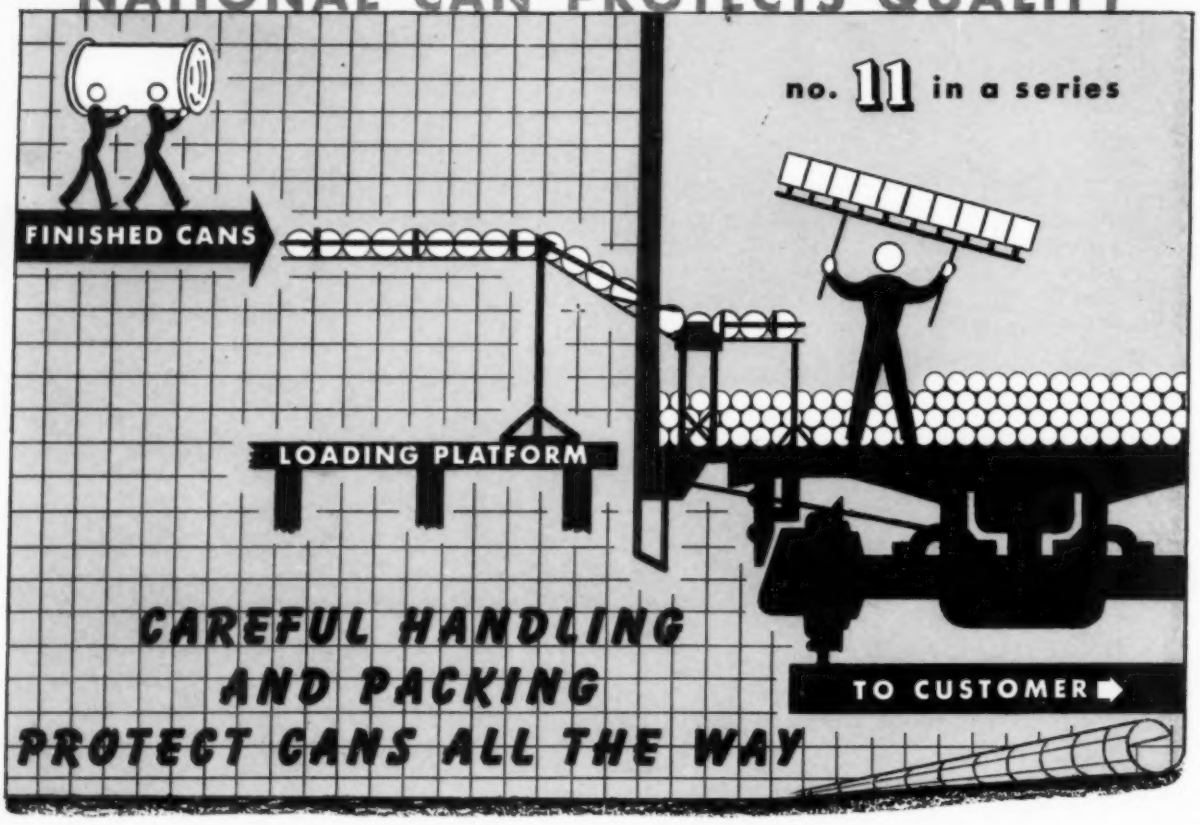
"This mixture is then taken to a tank where the soap can remain undisturbed for a determined period.

"Let us imagine that the operation is conducted in such a way as to fill this tank, which is then allowed to remain undisturbed for a sufficient period to arrive at complete decantation, i.e. in two or three layers according to the amount of water added. The soap in the upper part will represent

Figure 3. System for continuous fitting.



# NATIONAL CAN PROTECTS QUALITY




Right down to delivery of cans at a customer's plant, National Can Corporation "follows through" — backs up its system of modern manufacture with thorough and progressive methods of packing and handling.

Extra precautions at National Can include the wide use of automatic handling equipment to protect cans during the packing and shipping processes. In loading freight cars, for example, cans, after testing, are automatically delivered to expert stackers at the same high rate of speed as employed on the production lines. Cans are stacked according to an interlocking principle, and held in place by careful "shoring" thereby avoiding damage in transit. Similar precautions are taken in shipping by truck or boat.

Measures like these round out a quality-first policy that has typified National Can Corporation's business progress for nearly half a century.

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## CORPORATION

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about 80 to 85 per cent of the volume.

"Let us now suppose that, having a full decanted tank, the mixture defined above is caused to reach continuously the boundary line soap-fat, through an opening such that the rate of input is very low (in order to set up the minimum agitation). The capacity of the tank, which determines the time of decantation, will make it possible to remove continuously, from the upper part, soap that is well decanted, and from the lower part the fat which may be put back into circulation or else, in contact with a more salty solution, become salted down, or again, be eliminated for the purpose or of making a soap of inferior quality.

"The diagram shown elsewhere enables the practical application of this system to be better understood (Figure 3).

"The advantages are as follows:

The soap is automatically controlled in the same way as in the tank, because the equilibrium is the same. This results in a high degree of simplicity.

"The heat consumption remains nil, apart from losses (the tank should be well lagged).

"On the other hand, there is a drawback in having to use a tank of fairly large dimensions, e.g. corresponding to a day's operation.

"Moreover, the recovery of the glycerinated water recovered by this process is less than for the neutralization procedure. It is restricted by the glycerol concentration of the basic soap, and there is a tendency to approach the theoretical concentration corresponding to the equilibrium between the glycerin in the lye and the glycerin in the soap."

### Advantages Claimed

In conclusion, what are the immediate advantages of this continuous process over the old?

1. *Space.*—A certain number of soapmakers have already realized the saving in space represented by the process. For instance, an installation capable of turning out 50 tons of soap per day could be contained in a building 6 by 8 by 8 m. The saving in building construction need not be specified. It is tremendous.

2. *Labor.*—A single person operates the apparatus. The saving in labor is only appreciable in the case of high output, for an apparatus producing one ton per day requires the same staff as an apparatus producing 100 tons.

3. *Coal Consumption.* — The coal consumption is more or less nil. First of all, it is sufficient for the fatty substances to be at about 50° in lieu of 100°. No part of the apparatus need be heated except in starting.

4. *The Soap obtained is of Better Quality.*—(*a*) It does not remain eight days in a boiling pan, during which time it may oxidize and pick up iron more or less everywhere;

(*b*) Its quality is uniform;

(*c*) Its quality is not dependent on a more or less skilled soapmaker, and is constantly subjected to continuous automatic control. Moreover, there is no need for the operator to be trained over a period of years. What is more, the glycerin is recovered in a higher proportion than in the boiling process and therefore requires less coal for its subsequent concentration.

On the other hand, the motive force consumed is higher than for the boiling method. (The relative cost of plant maintenance and deterioration is not mentioned, but must surely be a good deal higher than with the conventional pan and frame process.—Editor, *S.P.C.*)

This saponification process is covered by the following provisional (French) patents:

No. 472447 of October 10, 1942.

No. 481934 of July 31, 1943.

No. 482737 of August 27, 1943.

No. 506918 of December 8, 1945.

No. 506920 of December 8, 1945.

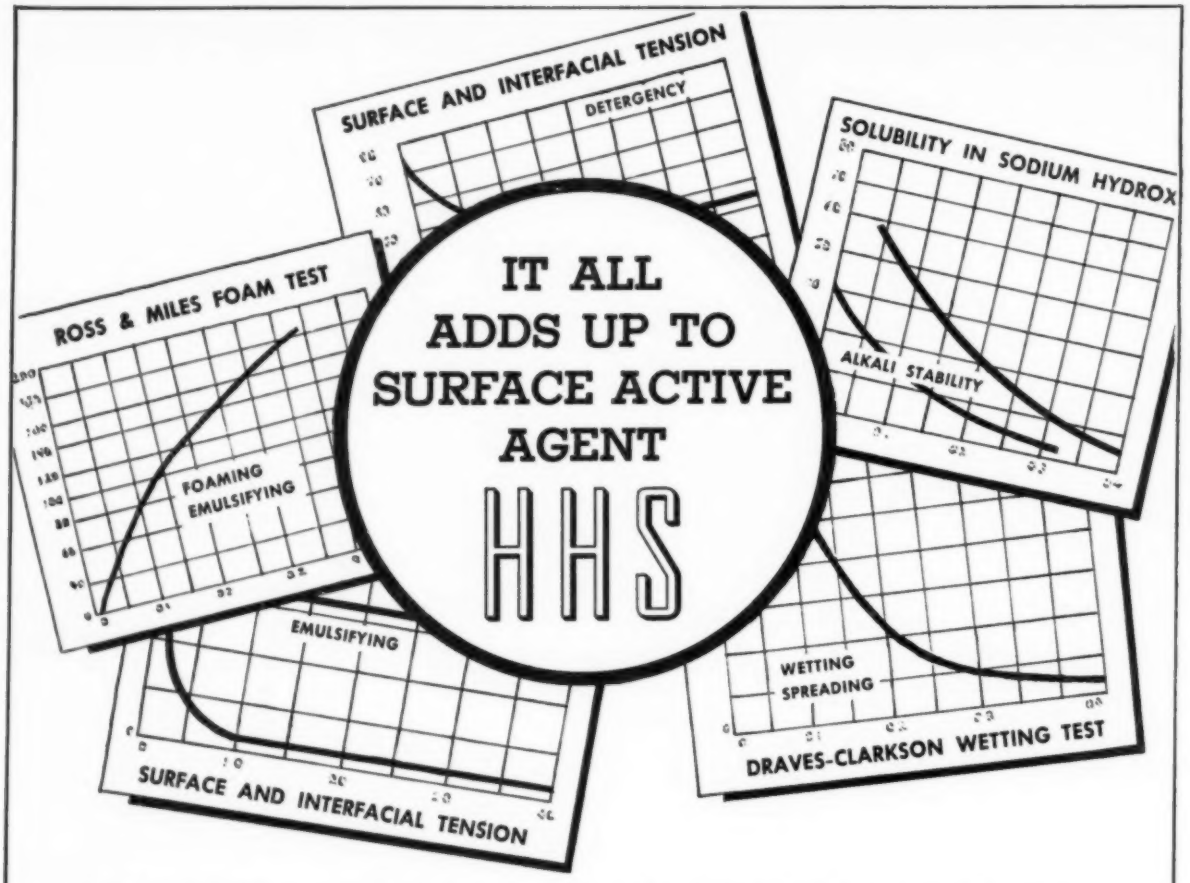
### Comments

The following comments are offered by experts and consultants in the soap industry. The first commentary, by Dr. J. H. Wigner, English consultant, is as follows:

"During the past year or two there must have been many discussions among groups of competent and well-informed men who were contemplating the erection of new soap factories or the reconstruction of existing ones. It would be very interesting to know, first, whether the erection of plant for a continuous process was generally considered as an alternative to the existing arrangements for the boiling process and, secondly, how many votes were in favor of each. William J. Govan, Jr., in a recent article (*S.P.C.*, Feb. 1947), gives the opinion that at least three-quarters of the hard soap manufactured in the United States is made by the full-boiled method, continuous processes being lumped in with "semi-boiled" and "cold made" as having so far limited application. So, whereas on the one hand some few manufacturers have thought enough of the idea of continuous processes to incur a large expenditure on plants of one of the new types, the majority prefer the older method—though Mr. Govan's firm and others are in favor of modernizing this process, which shows that they are at least not opposed to new ideas.

"MM. Lachampt, Seemuller and their colleagues evidently believe in the idea of a continuous process and have been alive to the objections that one may imagine to exist to some of the processes previously put forward. They seem to have put in much solid and well-directed work, most of which is really aimed at making soap of quality comparable with that of first-class boiled soap. I like particularly the devices for accurate adjustment of the fat- and alkali-pumps, for the fine emulsification of fat and caustic and for the continuous control of free fat and excess alkali. The arrangements for washing the soap are very ingenious, but although the paper is, in general, so full and informative, it would be much more convincing in this respect if full figures were given, showing the course of the removal of glycerin, the percentage yield obtainable, the concentration of glycerin in the final lye ready for evaporation, and so on.

"I think the statement of claims for the process is rather a mistake; the paper is full enough to enable those interested to judge of the merits of the process, and the claims seem to be a

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little exaggerated. As to that for saving in space, the plant does the work of two or three soap pans of medium size, which would go comfortably into a space little if any bigger than that indicated, and in any case soap pans occupy only a fraction of the whole space required in the factory. As to fuel consumption, there should be some saving, but it would have been better to give actual figures. As to quality, given suitable fat mixtures most reputable soap works in this country habitually turn out soap which can hardly be excelled, and soap *does not* suffer from spending a week in the pan, and the quality is in most cases very uniform. Also, this old nonsense about its requiring a period of years to train a soapboiler is getting very tiresome. It was put about years ago to help establish the importance of men who had been fortunate enough to become head soap boilers. Men were chosen as prospective soap boilers from among the works laborers; some had no aptitude, others learned very slowly, and as a general rule the head soap boiler could not teach and was in any case disinclined to teach his men as much as he knew himself. Nowadays an intelligent boy from school, who has any natural aptitude for that kind of job, can be taught all the mechanical part of soap boiling within a month. I expect the people required for MM. Lachampt and Seemuller's process would require about the same amount of training.

"Assuming the quality of the soap made to be equal to that made in the ordinary way, the comercial possibilities of the process *depend simply on the cost of working it*, and of comparative plant maintenance costs. As the authors have apparently disclosed all the essential details of the process, they may possibly see fit to let readers have such working figures, on which comparative costs with the boiling process could be determined."

John W. McCutcheon, New York consultant on soaps, and fats and oils technology, states: "I agree in general with Dr. Wigner's feelings about the process except for minor reservations. The information disclosed is not sufficiently detailed to enable a critical evaluation. Factual data is missing, particularly on the glycerine washing procedure which is a key to the whole process. The operation of soap-boiling which requires the time is the effectual washing out of the glycerine and impurities. Actual saponification in kettle practice requires only a few hours, and yet in most continuous processes noted to date, the emphasis is on this phase of the process. The really essential part of the job, and the one most difficult to accomplish, is dismissed with little comment. In this French process, the inventors realize the shortcoming and introduce a settling tank system called a 'soap purifier.' It is hard to see how this differs from a regular kettle in purpose, only operating under much less efficient conditions.

"The ingenious control method introduced would appear to confuse unsaponifiable with unsaponified, statement to the contrary notwithstanding. The acid-alkali tester would be qualitative. It appears that this process has merit for investigation by operators who have money to spend on experimentation. It would not be recommended as workable in its present form, on the basis of information supplied in the article."

From a consultant on the continent of Europe comes the comment: "The process has been developed by 'Monsavon,' Clichy, France; Savy Jeanjean, Courbevoie, is the agent for sales and installation. The price of the equipment, for a 500 to 600 kilo per hour production, is about 3,900,000 francs, not including inventor's fees. The method is receiving interest not only here but in Czechoslovakia and Sweden. I have not been in Clichy to observe the method in operation so am not able to offer any well-founded judgment. I have heard comment that there are a great many chances for things to go wrong. I am afraid that the apparatus is too expensive for the advantages claimed, and because of the expense will have a limited market. I have more confidence in the advantages of the combined saponification process of Dr. Leindorfer." (Editor's note: We will try to get more information about the Leindorfer process for publication at a later date.)

Alan Porter Lee, of Alan Porter Lee, Inc., contracting and consulting engineers, New York, has this comment to make: "Basically the process is very sound and has good possibilities. It needs a little development, however. I have seen the product stated to have been produced by this process. It makes a satisfactory milled soap. The approach of these people to the problem has been serious and scientific, and their progress toward solution has been excellent. Final judgment of its value to industry appears to be dependent on its installation in several plants of various sizes and its continued operation over a period of months in direct comparison with the kettle-boil method."

## Saponification Values

Determination of the saponification value of a number of oils in 0.5 Normal solutions of potassium hydroxide in different solvents showed that saponification was slow and incomplete in methanol. Butanol discolored and was poorly miscible with water. This caused separation during the back-titration of potassium hydroxide. The highest value was most quickly obtained in propyl alcohol. The high or limit saponification values obtained were: olive oil 192.7, linseed 194.7, *Wrightia annamensis* 183.1, dolphin head oil 251.5, and spermaceti 129.1. The use of propyl alcohol is particularly favorable for waxes and nonglyceride oils. E. Andre and M. Maille, Mull. soc. chim. France *1947*, 215-17; through *Chem. Abs.*

## Ester Interchange

An apparatus is described for the continuous removal of fatty acid radicals of lower molecular weight from glycerides by reaction with alkyl esters of acids of higher molecular weight. A temperature range of 250-300°C. at a pressure of 20-40 mm. is used to distil off the lower molecular-weight alkyl esters formed. The reaction proceeds with or without a catalyst, but the use of a catalyst promotes conjugation of the double bond system in the glyceride. J. F. Murphy and E. K. Holt, to *Lever Brothers Co.* U. S. Patent No. 2,418,898.

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# PRODUCTION Clinic

By E. G. THOMSSEN, Ph.D.

IN A recent article on this page, we considered the question of clarification of liquids. In this discussion we mentioned the necessity of properly filtering a cloudy liquid without elaborating to any extent on the filters used for carrying out the filtering process. It is timely to consider more fully the filters themselves. Filters, it is well known, are used not only for clarification purposes but also for recovering and washing valuable solids in liquids as filter cakes. In the soap and sanitary chemical industries, however, the retention of the filter cake is quite infrequent. Rather than to write in detail on this point and making our discussion too lengthy, we merely mention this phase of our subject without further details.

The important and essential requirements in selecting suitable filtering equipment are several. The proper type of filter is of prime importance. The capacity of the filter, the material from which it is constructed, first cost and economy of operation, the clarity of the filtrate, amount of solid matter in the unfiltered liquid, flexibility where several liquids may be concerned, and erection problems must be taken into consideration. Too frequently these specifications are carelessly considered and the filter is criticized because of poor operation. There are a number of types of filters available to answer almost any filtering problem. Producers of filtering equipment maintain laboratories for pilot plant tests and their service is rendered free or at little cost. Careful buyers of filtering equipment use these services and, as a result, usually get the proper equipment to accomplish their purpose efficiently.

Filters are classed as gravity, pressure and vacuum types. The gravity filters are low pressure filters.

Pressure type filters find most frequent use. There are a number of variations of these among which the more common are known as filter presses, leaf filters, edge filters, ceramic filters, disc filters and drum filters. The drum type construction is most generally used for vacuum filters.

Filter presses and leaf filters rely upon cotton or metal cloth for retaining the solids. The former comes as a plate and frame press or a recessed plate. Open and closed deliveries of the filtrate are available. The filter press is the most widely used filter because of its advantages.: (1) It handles all filterable substances even very viscous ones (2) It makes for extreme clarity (3) It is economical to operate (4) The filter cake is easily handled (5) It handles liquids without evaporation (6) It requires little floor space (7) Its operation is economical (8) It can be operated at low or high pressure (9) It is available in all capacities (10) It can be back-washed (11) It is leak proof and (12) It is transported in small sections.

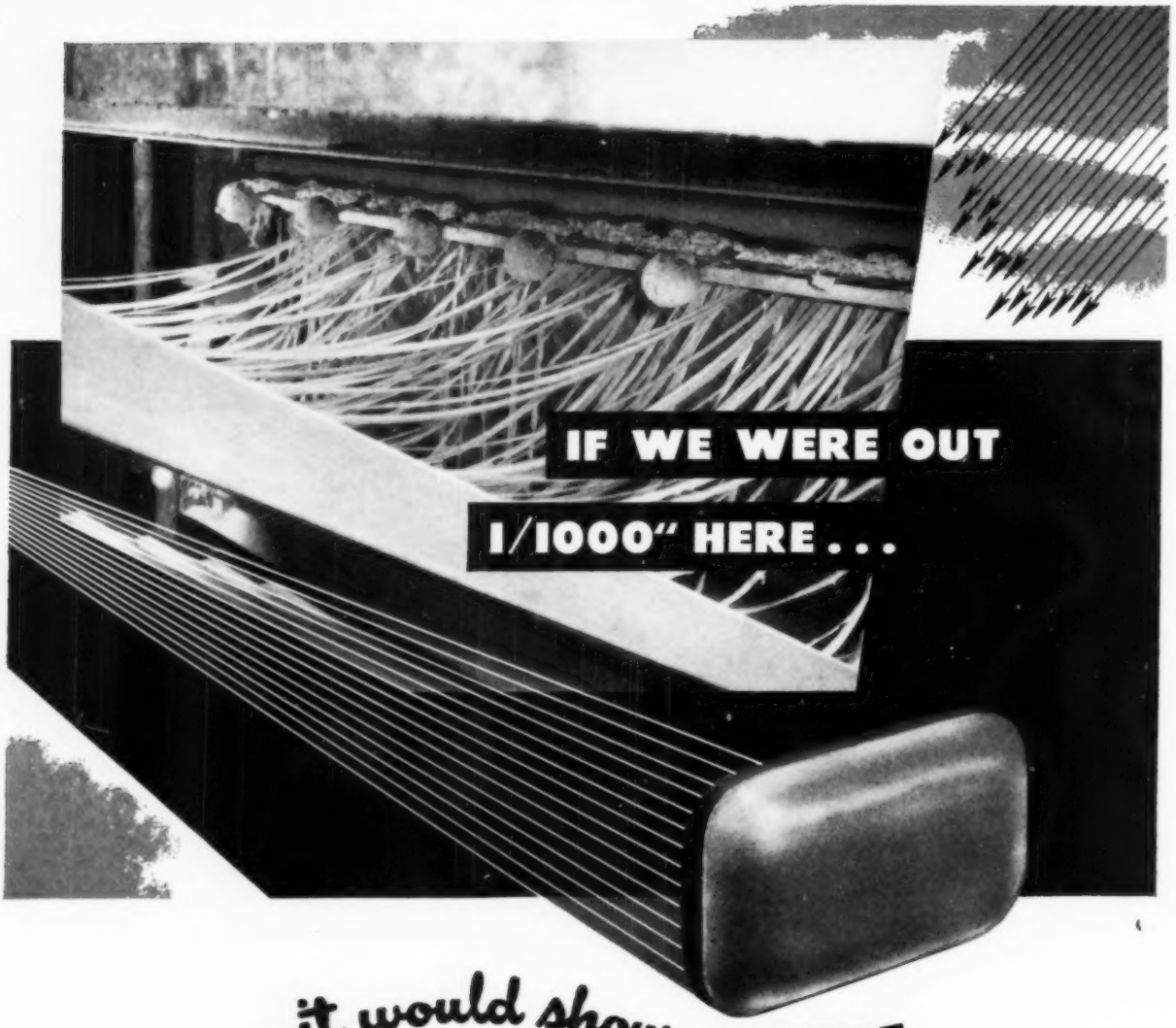
Among the manufacturers who specialize in filter presses for larger installations, names like Sperry, Shriver Carver and Sweetland are prominent. While these manufacturers also make smaller presses, the names, Alsop, Ertel, Lomax, Sparkler, Filter Paper Company and others are better known to the smaller users. They have catered to the smaller customer more intimately. A few words regarding these filters are in order.

The Sealed disc filters of Alsop Engineering Corp., Milldale, Conn., are well known. Among the advantages of using these filters are: no need for cleaning filter cloths or papers, no necessity of building up a filter cake, simple operation, high capacity, and no leaks, drips or loss of vapor with volatile liquids.

Ertel Engineering Co., Kingston, N. Y., makes a diversified line of filters in sizes of less than one gallon per minute to 100 gallons per minute. Their Three Way Multiple Filter is a good example of the kind of service their filters render. By the use of this apparatus, filtering costs of liquids difficult to filter are reduced. It prefilters and "polishes" liquids in one operation. One section of the plates may be in operation while the other is being cleaned and the pump is so designed as to operate independently as a transfer unit.

The equipment of Frank B. Lomax Co., Chicago, is largely designed for syrup making. They feature small size tubular-shaped filters and also stainless steel constructed, compact, self-draining plate and frame filter presses.

The Sparkler Manufacturing Co., Mundelein, Ill., makes a line of presses often found in plants making liquid soaps. They are adapted, however, to all liquids. In their line the filter aid cake is built up on round plates on a horizontal plane. This results in economy of time and material. Other advantages are large filtering area per unit of floor space, compact design so as to make even large units portable, positive sealing of all plate edges to prevent by-passing of the filtrate, easy control of temperature when

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Any variation in the uniformity of the dried flakes which go to make up the finished cake of soap—is reflected in the uniformity of that cake. Uniform flake drying is the result of not only the dryer in which the flakes were handled—but also of the condition in which the ribbons were delivered to the dryer. Variations in ribbon thickness result in variation in dried flakes. That is why the chilling machine, by which hot liquid soap is converted into ribbons, must be precision engineered and built. The chilling machine, that together with the three conveyor dryer comprises the Proctor automatic flake soap system, is carefully engineered in every detail. The feed roll and the main chilling roll are set with such accuracy that the soap is spread to a uniform thickness across the entire surface of the roll. At a given point solidified soap is removed from the main chilling roll, in ribbons of uniform width, by means of a serrated and a plain knife or a set of marking devices and a plain knife. The accuracy and precision with which this part of the Proctor system is engineered make possible uniform ribbons, necessary for correct drying. It is sturdily built to remain accurate—even with long, hard use. For the full story of how the Proctor automatic flake soap system can help you in the production of top quality soap, write for Bulletin 304.

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liquids are filtered hot, complete filtration of batches, easy cleaning, large cake space and prevention of oxidation or evaporation due to totally enclosed construction. Among the materials being filtered on Sparkler filters are all oils and their fatty acids, sulfonated oils, disinfectants and liquid waxes.

The Filter Paper Co., Chicago, makes portable filter presses and disc filters. Their disc filters are designed for filtering moderate quantities of liquids through filter paper, asbestos pads or filter cloth. They can be operated by unskilled workmen and are easily cleaned without disconnecting any fittings. The filter area of 130 square inches and under 25 lbs. pressure has a filtering capacity up to 300 gallons the first hour. Ample space is provided for the use of filter aids or activated carbon if desired.

Quite recently R. P. Adams Company, Buffalo, has come out with a new line of filters. They claim to obtain a very clear filtrate with these filters. The filters are totally enclosed and lined with corrosion resistant metals. For the filter media, they use a porous stone, carbon or a screen with various sizes of porosities. Other advantages are no moving parts, quick cleansing by backwashing by the surge tank method and complete recovery of the liquids.

Edge filters are preferred by many filter users. Edge filtration comprises the process whereby the fluid containing the solids is passed edgewise between circular wheel-like discs of metal, separated by metal spacers of the desired thickness. The solid material, of a particle size larger than the distance between the spacers, cannot pass into the filtrate. The solids usually accumulate in such a way as to make cleaning difficult. To overcome this troublesome operation the Cuno Filter provides a means of readily cleaning the edge type filter without interrupting the flow. This is done by twisting a handle which turns the cartridge of the press, easily removing the lodged solids. This patented feature is very convenient with this type of filter.

Vacuum filters are designed more generally for continuous filtration. They are referred to most often as drum filters because the filter consists of a rotary drum upon which the filter cake deposits as it slowly revolves. Properly fitted scrapers cause the cake to discharge. If desired, the washing of the filter cake is also carried out continuously. Pre-coating of such filters is possible where sticky, slimy, cloth blinding cakes build up. In such cases the cake is usually discarded. A wide range of vacuum filters is available. Oliver United Filters, Inc., New York, offers them in sizes of from 3 to 790 square feet of filtering area. This makes it possible to use continuous vacuum filtration even in smaller plants. The Conkey Rotary Drum Vacuum Filter built by General American Transportation Corp., New York offer filters of this type from 18 to 575 square feet filtering area. Since the field for this type of filtration is constantly broadening, new improvements are constantly being made and special designs are built to suit specific requirements.

The material used in construction of the filter, the cost and economy of operation, flexibility of use and disposition of the filter cake are matters which require individual attention as they arise. They cannot be discussed in a general way. As indicated above, they must be taken into consideration in selecting a suitable filter, however.

A few remarks with reference to filter aids are in order. These include chemically inert minerals which are used to accelerate the filtering rate, which they do by forming a porous cake on the paper, cloth, ceramic or other media. They offer certain economies and cause greater clarity of liquid filtrate by absorbing and removing undesirable colloidal, slimy, and gummy particles. In employing a filter aid two methods are used. One is to pre-coat the filter with a filter aid coat by dispersing it in water and passing the agitated mixture through the filter first. The second is to add the filter aid directly to the liquid to be filtered and pass it through the filter while keeping the filter aid dispersed as uniformly as possible by constant mixing. Among the more commonly used filter aids are powdered washed asbestos, Kieselguhr, diatomaceous earth, paper pulp, Fullers earth, talc, magnesia and sawdust. If the product is to be bleached and filtered as, for example, in bleaching oils and fats, activated clays or activated carbons are used in conjunction with the filter aid.

There are other considerations regarding filters such as open or closed deliveries, pressure, temperature and type and installation of the pump. As filtering is of much importance in chemical processing, production men are ever on the alert to perfect this operation.

### *pH Test Papers*

Most manufacturers who do not find it convenient to purchase the more expensive pH meter rely upon pH papers for testing the pH of a product. In certain cases they resort to the universal test papers. These are not as accurate as the sets of papers which are available at low cost, considering the ultimate results.

Standard Scientific Supply Co., New York, features a new hydrion pH test kit which contains 19 pH test papers which range 0-14 pH at the pH within plus or minus 0.25. The complete pH unit and dispensers are packed in a wooden case. Seventeen of the units come in the new single roll dispenser. Each dispenser contains a protected color chart for its particular values. The kit offers a simple compact, accurate unit for measuring pH.

R. P. Cargille Co., New York, also has available 19 hydrion pH test papers which range pH 0-14 at the same price as those above. These also are accurate and simple to use. Separate papers may be purchased if desired. Leaflet H-20-CN, describing the set, is available from this company upon request. Cargille is well known, also, for its line of test papers to determine the strength of chlorine and cationic solutions for germicidal rinsing of dishes, glassware etc. after washing.

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## Analysis Methods Revised

The American Oil Chemists' Society, Chicago, recently announced the first revisions to the 1946 edition of the Official Methods of Analysis. The changes are titled "1947 Revisions" and are available in looseleaf form, 6x9, like the methods them-

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selves. Technical editor of both methods and revisions is V. C. Mehlenbacher of Swift & Co., Chicago. Included in the 1947 Revisions are the following sections:

Index revision
Cellulose Yield correction, Bb 3-46
Refining Loss revision, Ca 9b-46
Table correction, I 2-46
Refining Loss revision, Ca 9c-46
Ash addition, Ca 11-46
Refined and Bleached Color addition, Cc 8d-47
Insoluble Impurities revision, Ca 3-46
Glycerol, Ea 6-46
Specific Gravity, Ea 7-46
Moisture, Glycerol, Ea 8-46
Moisture, Lecithin, Ja 2-46
Benzene Insoluble Matter, Ja 3-46
Acetone Soluble and Insoluble Matter, Ja 4-46

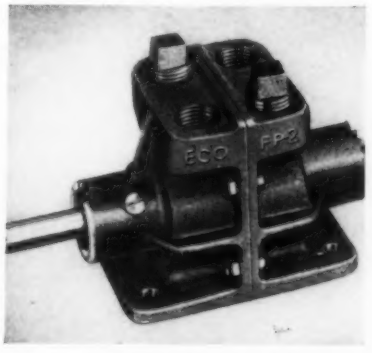
These Revisions are embodied in the revision of Trading Rule 102 announced by the National Soybean Processors Association, effective on all sales contracted for shipment after September 30, 1947. Price of the Revisions is 50 cents, if sold separately. The Methods sell for $6, including binder.

### New Perfume Catalog

A new catalog titled "Aromatics by Felton" was released for distribution during November by Felton Chemical Co., Brooklyn, N. Y. The catalog contains a listing of aromatic and perfume materials arranged according to the following usages: "Aromatic Chemicals," "Essential Oils," "Terpeneless Oils and Concentrates," "Perfume Bases for Extracts and Toilet Waters," "Creams and Lotions," etc. In addition, listings of a number of specialties are found in the booklet which will be of interest to perfumers, toilet goods and cosmetic manufacturers, soap makers, and other users of aromatic and perfume materials.

### New Gearless Pump

A new line of gearless pumps for general industrial use, was recently announced by Eco Engineering Co., Newark, N. J. The line features a new double impeller design said to give a strong flow against pressure. Pump bodies are available in stainless steel, monel and bronze. Worn parts can be replaced easily and parts coming in contact with the liquid can be adapted for that special purpose. Special impellers can be provided to suit particular characteristics. The new line of pumps is said to be adaptable for nearly every type of liquid handling, including acids, solvents, oils, etc. Pumps are available in ¼ inch and ½ inch sizes, and capacities from one to twelve gallons per minute. They can be used




against pressures up to 50 psi, and will deliver at speeds from 200 to 3500 rpm. The model shown above is the Eco gearless double impeller pump, ½" PPT-1.

### New Thermoplastic Paper

A new delayed action thermoplastic paper, "Thermo-Kote" for labelers, bottlers, printers, lithographers and manufacturers of packaging machinery, was recently announced by Nashua Gummed and Coated Paper Co., Nashua, N. H. The new heat seal paper is preactivated by heat and then applied under pressure. It is activated at relatively low temperatures and remains "tacky" for several minutes after removal of heat. It can be used where the application of heat would affect product or package adversely. Thermo-Kote CM-1 is also produced as a water-resistant adhesive for bottling requirements where preservation of bottle identification against exposure to moisture is a requisite. The label applicator does not need to contain a heating element for the Thermo-Kote is activated by a heating element, the label is then transferred to the pressure element or applicator, which applies the label to the product. Another heat seal paper being developed by Nashua is "Thermo-Stix" which is applied under heat and pressure on jobs where preactivation is impractical and where a firm bond is desired to lacquer coated surfaces, coated products, self-sustained films, cellophane and similar surfaces.

### Folder on Hercules Daintex

"Daintex," a liquid wetting-out agent and penetrant for laundries, was announced in November as again available from Hercules Powder Co., Wilmington. A small pocket-size folder describing the properties and uses of the product may be obtained from the company. Daintex is used along with standard soaps and builders for washing all kinds of soiled clothes in commercial laundries and is said to cut sudsing time and give whiter whites or brighter colors. The agent is made from terpene alcohols which until recently have been on allocation. Actual washroom experience and tests at the American Institute of Laundering have shown that Daintex aids removal of surface and impregnated soil from fabrics in less time than can be done with soap and alkali alone. It also shortens washing cycles by wetting out loads quickly and making it possible to eliminate one suds operation. It also effects a saving in detergent costs. Daintex can be added directly to the wheel, to the first break, or in the soapstock solution.

### Booklet on Displays

Sherwin-Williams Co. has issued a helpful merchandising booklet for use by distributors in building displays of the company's "Lin-X" waxes and polishes and "Pestroy" DDT insect powder and liquid coating. Titled "Turnover and Profits Through Display" the booklet assists dealers to capitalize on the S-W national magazine, newspaper and radio advertising of their products.

### Booklet on Dust Control

A booklet titled "Industrial Dust Control through Exhaust Systems" was released in mid-November by Pangborn Corp., Hagerstown, Md. A general descriptive outline of the method of controlling industrial dusts at the source of production by means of exhaust systems is given. Essential data needed for preliminary study of dust control problems is offered.

# SEASON'S GREETINGS

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## Offers Resin Alcohol

Commercial production of a new low-cost resin alcohol, "hydroabietyl alcohol," made from rosin, was announced December 1st by Hercules Powder Co., Wilmington, Del. Hydroabietyl alcohol is a viscous primary alcohol, colorless, tacky, and not miscible with water. It is said to be the most resistant of all rosin derivatives to discoloration and degradation by light or air. Its properties are somewhat similar to other high molecular weight alcohols and it is expected to have applications in the detergent field. A wide variety of products may be derived form hydroabietyl alcohol such as resins, detergents, foaming, wetting and emulsifying agents, plasticizers, corrosion inhibitors, anti-oxidants, parasiticides, bactericides, and compounds highly stable to ultraviolet light. Commercial production of the resin alcohol will be carried out in a unit of Hercules' new plant at Burlington, N. J.

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## DuBois Has New Dispenser

A variable control, visible feed automatic hydraulic dispenser for dispensing powdered soap into automatic dishwashing machines was recently announced by Du Bois Co., Cincinnati. The machine enables operators to determine exactly how much soap or liquid detergent is being fed to the machine and provides regulation through a graduated dial needle valve.

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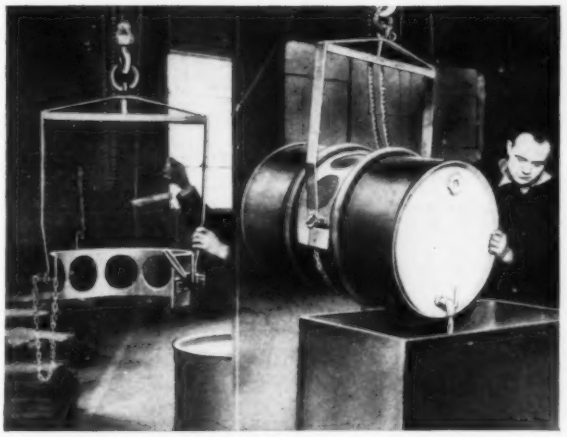
## Offers New Floor Sweeper

A new "Parker-Springfield" aluminum floor sweeper was recently marketed by Parker Pattern and Foundry Co., Springfield, Ohio. The floor sweeper, particularly suited to shops, factories, warehouses, and institutions, is constructed of aluminum and weighs only 45 lbs. It is equipped with semi-pneumatic tires, completely enclosed gears, and a collecting hopper with a capacity of one cubic foot.

—— ♦ ——

## "Bromofume" Booklets Out

Eston Chemicals, Inc., 3100 E. 26th St., Los Angeles, offers booklets on their product "Bromofume," an ethylene dibromide soil fumigant for use in the control of wireworms and certain nematodes. The booklet gives complete information on use and application of the material, with emphasis on various types of application studied in the field during the 1947 season.



This new "Drum Karrier" made by Falstrom Co., Passaic, N. J., fits standard size drums and can be quickly fitted to, or removed from, existing lifting devices. It is simply hooked to the hoist, moved to position, cinched around the drum and transported where needed.

## Felton Issue New Catalog

The new catalog and price list of aromatic and related products made by Felton Chemical Co., Brooklyn, was announced by the company late last month. Products are arranged according to usage.

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## N. Y. Chemical Show

Officials of the twenty-first Exposition of the Chemical Industries, which opened December 1st at Grand Central Palace, New York, estimated that more than 16,000 visitors attended the four floors of exhibits during the first day.

Reflecting the increased postwar production of heavy materials, machinery and processing equipment displays predominated at this year's show. Among those demonstrating latest developments in heavier equipment, driers, packagers, fillers, and conveyers, were: Proctor & Schwartz, Inc., Philadelphia; Sprout-Waldron & Co., Muncy, Penn.; MRM Co., Inc., Brooklyn; Karl Kiefer Machine Co., Cincinnati; Pneumatic Scale Corp., North Quincy, Mass., and George C. Rodgers Co., New York. The booths of The U. S. Stoneware Co., Akron, Ohio, and Mixing Equipment Co., Inc., Rochester, where mixing and tumbling equipment were shown in operation, were well attended. Alsop Engineering Corp., Milldale, Conn.; Ertel Engineering Corp., Kingston, New York, and Sparkler Manufacturing Co., Mundelein, Ill., demonstrated their latest lines of filtration equipment.

Many new techniques in chemical processing and manufacturing were in evidence at the Exposition. The Colgate-Emery process of continuous fat-splitting, a development of Blaw-Knox Co., Pittsburgh, was explained and demonstrated by the members of the Chemical Plants Division. Magnus, Mabee & Reynard, Inc., New York essential oil house, gave out information on the firm's latest product, 'Magnella," which is claimed to cover fatty acid odor in soaps in concentrations of ½ of 1 per cent.

Other exhibitors in the soap and sanitary chemical field included: Winthrop Chemical Co., New York; Hercules Powder Co., Wilmington, Delaware; The Davison Chemical Corp., Baltimore; Atlas Powder Co., Wilmington, Delaware; Alrose Chemical Co., Providence; Hardesty Chemical Co., New York; Amecco Chemicals, Inc., New York, and Commercial Solvents Corp., New York.

Chemists at the booth of Foster D. Snell, Inc., outlined the firm's consulting facilities and services. Petroleum Specialties, Inc., New York, passed out circulars on the composition and uses of crystalline wax. The Container Co., Div. of Continental Can Co., Inc., Van Wert, Ohio, displayed its "Leverpak" containers.

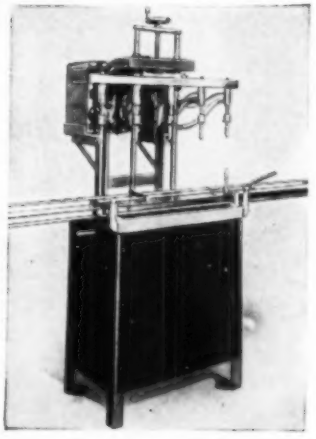
# *NEW* mrm fillers

INTRODUCED AT THE
NEW YORK CHEMICAL EXPOSITION

## mrm
## GRAVITY CAN FILLER

FILLS 1- and 2-gallon cans, quarts or pints.

Recommended for containers not adaptable to filling by vacuum or pressure



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## MODEL "B"

Small Adaptable Vacuum Filler

**4 - 6 SPOUTS**

**Mounted on Casters**

Excellent fill-in for short runs or small production requirements.

***WRITE FOR DETAILS — NO OBLIGATION***
***Prompt Deliveries***

- **MODERATELY PRICED TO REACH *ALL* MANUFACTURERS**
- ***NO SKILLED OPERATION OR MAINTENANCE NEEDED***
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# PRODUCTS AND PROCESSES

### Flash-burn Cream

An ointment that forms a protective film on the skin to protect against burns and frostbite contains a solvent such as isopropyl alcohol, a film-forming material such as shellac, a lubricant such as magnesium stearate, an absorbent for actinic rays such as methyl salicylate, a plasticizer such as linseed oil, a wetting agent such as a fatty alcohol sulfate, a neutralizer such as borax, and a pigment such as titanium oxide or zinc oxide. G. B. Fauley and A. C. Ivy. U. S. Patent No. 2,425,311.

### Print Shop Cleaner

A special cleaner for the damping rollers of offset presses has been developed as follows:

| | Per cent |
|---|---|
| Water | 39.75 |
| Mineral spirits | 17.00 |
| Pine oil | 25.50 |
| Soap flakes | 17.00 |
| Caustic soda, 30% soln. | 0.75 |

The first three ingredients are mixed and the soap flakes added slowly with stirring. Caustic soda is added later. Four to eight ounces of this mixture is used per gallon of water. *Manufacturing Chemist 18*, 464 (1947).

### Sulfonate Detergents

Salts of fatty acids are caused to react with paraffin sulfochlorides obtained by treating paraffin hydrocarbons of boiling points 230-360°C. with sulfur dioxide and chlorine, if desired in the presence of short wave radiation. The products are useful as detergents. I. G. Farbenind. A.-G. Belgian Patent No. 449,767; through *Chem. Abs.*

### Flaked Catalyst

A homogeneous hydrogenation catalyst in flake form is produced by suspending finely divided active nickel or other suitable metal in a molten vegetable or animal oil, and chilling the mixture on a drum flaker. The oil acts as a protective medium. The metals may be in elemental form or as oxides, carbides, silicides, or organic salts. Suitable oils as protective mediums include cottonseed, coconut, corn, fish, and whale oils, stearic acid and tallow, alone or in combination. M. L. Freed, to Seymour Manufg. Co. U. S. Patent No. 2,424,811.

### Alkyl Sulfonate Process

Alkyl sulfonic acid chlorides are heated with a solution of alkali carbonate above 100°C. and under pressure with introduction of steam. The unsaponifiable fraction distils and is collected in vacuo. The aqueous solution of alkyl sulfonates is transferred from the autoclave to a heated vessel in vacuo, where the alkyl sulfonate is obtained in the fused state. It can also be cooled and filtered from the alkali chloride which precipitates. These alkyl sulfonates are used as washing and cleansing agents. Georg Schicht A.-G. Belgian Patent No. 448,551; through *Chem. Abs.*

### Floating Soap

Synthetic fatty acid is fused and dioxodisiloxane is added. After neutralization with caustic soda a fresh quantity of dioxodisiloxane is added a short time before setting, the total quantity being not over 1 per cent. Chem. Fabrik von Heyden A.-G. Belgian Patent No. 449,078; through *Chem. Abs.*

### Phosphatide Antioxidants

Phosphatides and combinations of phosphatides with other synergistic antioxidants, when treated with ammonia, give enhanced protection against oxidation of animal, marine, and vegetable fats or oils. National Oil Products Co. British Patent No. 589,273.

### Purified Oleic Acid

A simple method of purifying oleic acid was worked out at Emery Industries. The acid is heated at 330-360°C. for 3-8 hours under 85-400 pounds of steam pressure, after which the reaction mixture is dried and distilled. The distillate is purified oleic acid containing less than 3 per cent of linoleic acid. The residue is largely a double linoleic acid, useful as a modifying dibasic acid in alkyd resins, in polyamides, polyesters, and metallic soaps. *Chem. Industries 61*, 606 (1947).

### Washing Product

An insoluble alkali silicate with or without a soluble alkali silicate is brought into suspension with a foam producer and a vegetable gum. F. Gero. Belgian Patent No. 448,280; through *Chem. Abs.*

### Bleaching Waxes and Fats

The material to be treated is fused and agitated with an aqueous solution of sodium chlorite, and is washed after the bleaching is completed. Deutsche Gold-und Silber-Scheideanstalt v. Roessler, Belgian Patent No. 449,997.

### Diethylaminoethanol

Diethylaminoethanol is a new and very reactive amine related to monoethanolamine. It is an organic base which will react with fatty acids such as stearic and oleic, to form soaps. The oleic-acid soap has been used as an emulsifying agent for rubless wax polishes. The soaps are also useful in cosmetic preparations. *Manufacturing Chemist 18*, 463-4 (1947).

### Cream Shampoo

A solid cream shampoo may be made from the following:

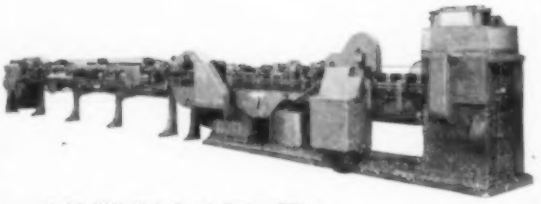
| | |
|---|---|
| Fatty alcohol sulfate paste | 37% |
| Magnesium aluminum silicate gel | 43% |
| Glyceryl monostearate | 0.75% |
| Stearic acid | 5% |
| Triethanolamine | 1.55% |
| Water | to 100% |

*Am. Perfumer 50*, 339 (1947).

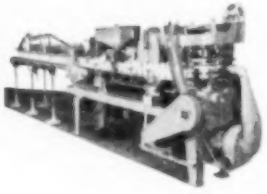
### Detergent Agent

A detergent agent is composed of a hydrated mixture of alkali percarbonates, soap, alkaline-reacting solvents, a salt of phosphoric acid containing less water than orthophosphoric acid, and stabilizers for the alkali percarbonates. Henkel & Cie G.m.b.H. Belgian Patent No. 448,841; through Chem. Abs.

# NEVERSTOP CARTON FILLER & SEALER



Model "A" High Speed Carton Filling and Sealing Machine. Production 160 per minute.



Model "E" Carton Filling and Sealing Machine. Production 60 per minute.

The "Neverstop" automatically feeds and seals cartons while in continuous motion, so that high speed production is obtained with slowly moving mechanisms. Volume filling is also accomplished without stopping the moving carton.

The "Neverstop" is extremely adaptable. Weighing or auger feed filling machines can be combined with the "Neverstop" when materials require their use. For free flowing materials having nearly constant volume per pound, the filling mechanism is incorporated in the machine, securing the advantages of less cost and floor space. For smaller cartons a made-up bag (liner) may be automatically fed and inserted into the carton before filling and, afterward, automatically folded and crimped or heat sealed.

The "Neverstop" Machines are furnished for either hand or automatic carton feed. An extremely tight seal is assured, top and bottom, since both are made in the same way. All carton flaps are glued, the first wide flap folded being crowded over into the fold of the second wide flap as it is folded down.

Detailed information will be furnished upon request. A sample package will help in specifying equipment.

**STOKES & SMITH Co**

PACKAGING MACHINERY — PAPER BOX MACHINERY

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FATTY AMIDE CONDENSATES

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ALKYL NAPHTHALENE SULFONATES

•

MODIFIED ALCOHOL SULFATES

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POLYOXYALKYLENE ESTERS

•

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•

FATTY MONOGLYCERIDES

•

ALKYL IMIDAZOLINES

•

ALKYL IMIDAZOLINIUM CHLORIDES

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| Wetting Agents | Emulsifiers | Penetrants |
| Foamers | Dispersants | Softeners |
| Detergents | Defoamers | Sequestrants |
| Textile Chemicals | Industrial Specialties | |

# NEW PATENTS

*Conducted by*
**Lancaster, Allwine & Rommel**

PATENTS, TRADEMARKS AND COPYRIGHTS

402 Bowen Building, Washington, D. C.

**Complete copies of any patents or trade-mark registration reported below may be obtained by sending 50c for each copy desired to Lancaster, Allwine & Rommel.**

**No. 2,428,367, Process of Treating Soybean and Similar Glyceride Oils**, patented October 7, 1947 by Lloyd F. Henderson, Reading, and Louis H. Libby, Boston, assignors to Lever Brothers Company, Cambridge. The process of improving oleaginous glyceride oil and fat stock, which comprises the step of treating said stock to remove color imparting impurities therefrom by adding to the stock and contacting it with treating agents consisting of formaldehyde and a mineral acid catalyst.

**No. 2,428,494, Pyrethrin and Dibenzyl Phthalate Insecticide**, patented October 7, 1947 by Howard A. Jones, Orlando, Fla., and Raymond C. Bushland, Fort Worth, Tex., assignors to United States of America, as represented by the Secretary of Agriculture. An insecticidal composition comprising pyrethrum and dibenzyl phthalate.

**No. 2,428,727, Carbon Disulfide Process**, patented October 7, 1947 by Carlisle M. Thacker, Highland Park, Ill., assignor to Pure Oil Company, Chicago. The process of preparing carbon disulfide comprising contacting hydrocarbons and sulfur in a conversion zone under conditions such as to yield carbon disulfide and hydrogen sulfide as the chief reaction products, cooling the reaction products sufficiently to condense molten unreacted sulfur, separating the molten sulfur from the reaction products and recycling it to the conversion zone, contacting the remaining reaction products comprising chiefly carbon disulfide and hydrogen sulfide with water and sulfur dioxide at a temperature below 100°C. in order to form sulfur, the amount of sulfur dioxide being approximately the stoichiometric equivalent of the hydrogen sulfide and the water being less than the amount required to give a saturated solution of sulfur dioxide, separating suspended sulfur from the aqueous medium and recycling the sulfur to the conversion zone, separating carbon disulfide from the aqueous medium and from the remaining reaction products and collecting the same, recovering excess sulfur dioxide from the reaction gases in a portion of the aqueous medium from which sulfur has been separated and recycling aqueous medium containing dissolved sulfur dioxide to the sulfur forming step.

**No. 2,428,738, Polyalkyl Aromatic Insecticides**, patented October 7, 1947 by Robert R. Dreisbach and Fred W. Fletcher, Midland, Mich., assignors to Dow Chemical Company, Midland, Mich. An insecticidal composition comprising an inert carrier and a high-boiling fraction of the reaction product obtained by heating naphthalene and diethyl benzene with a Friedel-Crafts catalyst, said fraction boiling above 230°C. at 25 mm. pressure, having a specific gravity of 1.00 to 1.05 and a refractive index of 1.60 to 1.63, and said carrier being of the group consisting of powder, wetting agent, solvent, water, and mixtures thereof.

**No. 2,428,766, Production of Glycerol and Yeast by Fermentation**, patented October 7, 1947 by Arthur L. Schade, New York, N. Y., assignor to Overly Biochemical Research Foundation, Inc., New York. The method of producing glycerine and yeast by fermentation of carbohydrates with yeast, which comprises adding about 100 grams of a pressed yeast containing approximately 72 per cent water to 10 liters of a hydrolysate of a starchy material containing about 10 per cent of total reducing sugar, conducting the fermentation at fermentation temperature while passing air through the mixture, maintaining the fermenting mixture in the neutral range by continuously neutralizing the acidic substances formed during the fermentation by means of a corresponding proportion of a base, and continuing the fermentation until substantially all of the fermentable sugar has been consumed, whereby a yield of approximately 22 per cent of glycerine based on the fermented sugar, and approximately 310 grams of yeast with a 72 per cent water content are obtained.

**No. 2,428,844, Fly Sprays**, patented October 14, 1947 by Samuel I. Gertler and Herbert I. J. Haller, Washington, D. C., assignors to United States of America, as represented by the Secretary of Agriculture. A fly spray comprising a member selected from the group consisting of N,N-diisopropylacetamide, N, N-diisobutylacetamide, and N-heptylacetamide as its essential knockdown agent and 2,2 - bis(p - chlorophenyl) -1,1,1 - trichloroethane as its essential active insecticidal ingredient, incorporated in a mineral oil carrier.

**No. 2,429,092, Insecticidal Composition**, patented October 14, 1947 by Stephen C. Dorman, Berkeley, Calif., assignor to Shell Development Company, San Francisco. An insecticidal composition, comprising pyrethrum and para-amino dimethyl aniline.

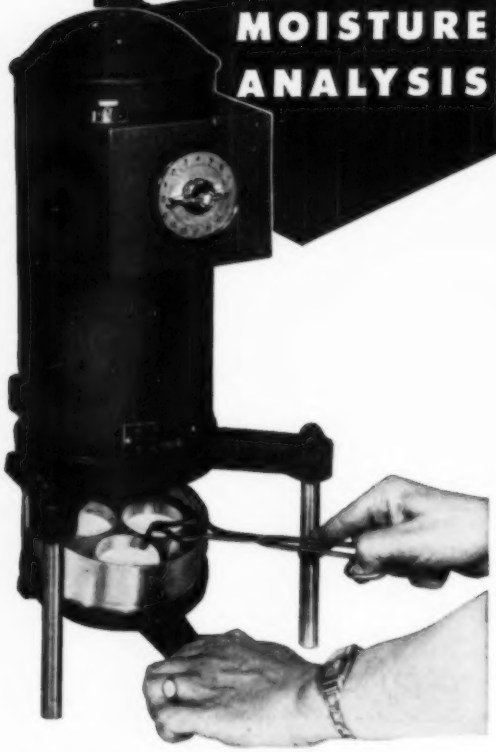
**No. 2,429,095, Primary Aminoaryl Mercaptans and Di-(Primary Aminoaryl) Disulfides as Fungicides**, patented October 14, 1947 by Elbert C. Ladd, Passaic, N. J., assignor to United States Rubber Company, New York. A fungicidal composition comprising as an active ingredient material selected from the group consisting of the primary aminoaryl mercaptans and di(primary aminoaryl) disulfides of the benzene and naphthalene series, salts of said mercaptans, and acid addition products and ring halogen substitution products of said mercaptans and said disulfides, and a carrier therefor selected from the group consisting of clay and talc, and water containing a dispersing agent.

**No. 2,429,096, Pyridine-2-Thiol and 2,2′, Ditho-Dipyridine as Fungicides**, patented October 14, 1947 by Elbert C. Ladd, Passaic, N. J., assignor to United States Rubber Company, New York, N. Y. A fungicidal composition comprising as an active ingredient material selected from the group consisting of pyridine-2-thiol, its salts, and 2,2′-dithiodipyridine and a carrier therefor selected from the group consisting of clay and talc, and water containing a dispersing agent.

**No. 2,429,097, N.N′-Dithiodimorpholine as a Fungicide**, patented October 14, 1947 by Elbert C. Ladd, Passaic, N. J., assignor to United States Rubber Company, New York. A fungicidal composition comprising as an active ingredient N,N′-dithiodimorpholine, and a carrier therefor selected from the group consisting of clay and talc, and water containing a dispersing agent.

**No. 2,429,098, 1-Phenyl-2-Piperonylidene-Hydrazine as a Fungicide**, patented October 14, 1947 by Elbert C. Ladd, Passaic, N. J., assignor to United States Rubber Company, New York, N. Y. A fungicidal composition comprising as an active ingredient 1-phenyl-2-piperonylidene-hydrazine and a carrier therefor selected from the group consisting of clay and talc, and water containing a dispersing agent.

# FLASH-DRYING SPEEDS MOISTURE ANALYSIS



The Dietert Moisture Teller is an instrument of laboratory precision which is successfully operated anywhere in the plant by non-technical personnel. By this means results are determined quickly enough to provide adequate control of many processing operations.

The amount of moisture in granular, fibrous, or crystalline materials is determined accurately, safely and without resorting to charts or involved mathematical calculations. An outstanding advantage of this equipment is that it does not lose its calibration—it is always dependable.

The Moisture Teller is available in five portable models for samples from 1 to 2000 grams in weight, each compact, self-contained and sturdily constructed.

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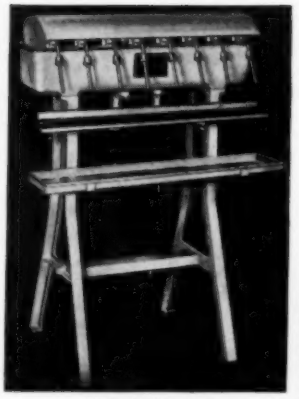
SAND · MOLD · MOISTURE · SULFUR · CARBON

# MOST POPULAR
## *Semi-Automatic*
## FILLERS



*U. S. Siphon Filler*

*Model B-2 Vacuum Filler*

***CUT YOUR FILLING COSTS WITH THESE PORTABLE UNITS***

***U. S. SIPHON FILLER.*** Not only is the machine reasonably priced, but it cuts down filling costs by maintaining rapid, accurate, and steady performance without tedious delays for adjustments. Fills every type of free flowing and low viscosity liquid into a wide range of containers up to gallons.

Anyone can operate the U. S. Siphon Filler. It fills automatically—only containers are moved manually. Requires no power. There is no up-keep cost; no springs, washers, flimsy rubber tubes, or frail parts to maintain. Write for Bulletin.

***B-2 VACUUM FILLER.*** Rapid filling of any type liquid or semi-liquid is made possible by the new U. S. Semi-Automatic Model B-2 Vacuum Filler. No lost motion, idle machine time or product waste! Advanced design simplifies automatic filling of 2 containers simultaneously. Manual operation is limited to movement of containers. Fills directly from any size storage container up to barrel size. Interchangeable filling stems. Fills AGST and ordinary neck opening containers up to 4" diameter. This new filling unit is invaluable to both small plants of hand-filling capacity and to larger plants as a stand-by unit to maintain production when peak volumes overtax regular filling equipment. It is portable, plugs into electric outlet for quick use anywhere. Write for Bulletin.

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MANUFACTURERS OF
PUMPS
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WASHERS
CORKERS
FILLERS

**No. 2,429,099, Benzoquinone Mono-Oxime Semicarbazone as a Fungicide,** patented October 14, 1947 by Elbert C. Ladd, Passaic, N. J., assignor to United States Rubber Company, New York. A fungicidal composition comprising as an active ingredient benzoquinone mono-oxime semicarbazone, and a carrier therefor selected from the group consisting of clay and talc, and water containing a dispersing agent.

**No. 2,429,531, Process for Producing Calcium Hypochlorite,** patented October 21, 1947 by Edward C. Soule, Niagara Falls, and Homer L. Robson, Lewiston, N. Y., assignors to Mathieson Alkali Works, New York. A process for the preparation of neutral calcium hypochlorite which comprises reacting a basic calcium hypochlorite substantially free from uncombined lime with an aqueous hypochlorous acid solution substantially free from chloride ion.

**No. 2,429,818, Pyrethrin and Dialkoxyalkyl Phthalate Insecticide,** patented October 28, 1947 by Howard A. Jones, Orlando, Fla., and Raymond C. Bushland, Fort Worth, Tex., assignor to United States of America, as represented by the Secretary of Agriculture. An insecticidal composition comprising pyrethrum and di-beta-methoxyethyl phthalate.

## Swift Patents for License

Swift & Co., Chicago, and its subsidiaries, have placed 443 of their patents on the Register of Patents as available for license on a royalty basis. According to a recent announcement on page 401 of the November 18, 1947 issue of the United States official Patent Office Gazette, publication of abstracts of these patents was started November 4, 1947 and they are being published in groups each week. The particular issue of the Gazette containing the group of patents relating to "fats and oils" is the November 18th issue. In subsequent issues of *Soap & Sanitary Chemicals* information will be offered relating to the patents on soap, glycerine and cleansers. Detailed information concerning the patents and lists may be obtained from Swift & Co., Union Stock Yards, Chicago, Ill. Among the fats and oils group of patents presented in the November 18th issue of the U. S. Patent Gazette are the following examples:

**1,845,708 Fat and Soap Stabilizer.** Patented Feb. 16, 1932. Fatty materials, including soap, are stabilized against rancidity by incorporating therein a cyanamide compound.

**1,885,281 Method of Neutralizing Fatty Acids In Oils & Fats.** Patented Nov. 1, 1932. Free fatty acids in oils and fats are neutralized by means of sodium bicarbonate under reduced pressure and at a reaction temperature of at least 320° F.

**2,067,022. Carton.** Patented Jan. 5, 1937. A fiber board carton which may be assembled from a blank containing end slots and tongues to hold the carton together.

**2,124,707 Oil and Fat Deodorization.** Patented July 26, 1938. A deodorizer in which steam is admitted at the bottom of a tank through a rotatable perforate disc, or a series of discs, to break up the steam into small bubbles.

**2,158,163 Method of Bleaching Oils and Fats.** Patented May 16, 1939. A method of bleaching oil by treatment with a solution of hydrogen peroxide and a nitrite.

**2,319,908 Container Filling and Weighing Apparatus.** Patented May 25th, 1943. A filling machine capable of filling containers with precise, weighed quantities of liquid materials.


*Best Wishes to our many Friends and Associates. We take this occasion to say "Thank You" for a most successful year.*

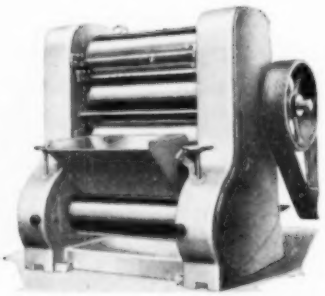
*When planning for '48, we would deem it a singular honor to be included in your plans. Our complete line and facilities are at your Service.*

★ FEATURING MERCOL ST BEADS
★ Non-ionic Surface Active Agents
★ Bubble Bath and Shampoo Base
★ FLAKES, BARS, GRANULATED SOAPS

SOAPS AND CHEMICALS
SEABOARD DISTRIBUTORS INC.
SYNTHETIC DETERGENTS
SIXTY PARK PLACE NEWARK 2, N. J.

## The Importance of PRECISION

INTO the making of an accurate time-piece go many skills. All of them, from the testing of materials through the fashioning of the intricate parts and their final assembly, are operations requiring precision of the highest order. From a delicate watch to a rugged Lehmann Soap Mill is a far cry, but here too, precision is of the utmost importance. Every operation in the building of these fine machines from drawing board to the finished mill is controlled by an inflexible insistence on precision craftsmanship. The unsurpassed performance of Lehmann Mills bears out the soundness of this policy.



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## How To Fill and Close Cartons at less cost

SEALERS THAT SELL BECAUSE THEY SAVE!

TRIANGLE specializes in simplified, standardized carton sealers for bottom sealing, top sealing or top and bottom sealing of all types and sizes of cartons. Combined with the complete line of Triangle weighers and fillers, they offer complete cost-saving systems. The unit illustrated is a Model SA top and bottom sealer with Model SB power feed weigher. Two operators fill and seal 18 to 25 cartons per minute. The weigher is fully automatic. A shaker is provided to settle material in the cartons. Where moderate production is satisfactory, no other machine can match its performance! It's an efficient simple, accurate, economical money-saver! Write for bulletin describing this and other machines.

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*Sales Offices:* New York • Pittsburgh Jacksonville • Memphis Dallas • San Francisco • Los Angeles
*Branch Factory:* Los Angeles

## SOAP SALES CAMPAIGN

(*From Page 37*)

tegrate within three or four weeks because interest is not maintained. Salesmen should not be permitted to lose interest. To keep interest high during the G. H. Wood campaign follow up letters and personal telegrams were sent, commending salesmen on their individual progress, wishing them well, etc. Besides the usual cartoons sent out, other cartoons showed the progress the salesman was making toward his 200 per cent objective.

The company further supported the salesmen in their campaign with full page color advertisements in many national publications.

### *Promotion Campaign Effective*

A SALES promotion campaign to help promote the sales contest proved effective. The contest described started March 17 and concluded June 28—approximately three months' duration. Before the campaign began, a letter was sent out asking each salesman where he would be on March 13, 15 and 17, to ensure receipt of contest news. Salesmen were also asked to notify the home office by telegram if their itinerary changed for any reasons. On March 10, the following letter was sent:

"Dear John:
You are about to embark on the biggest and most profitable campaign of your life.
We have lined up a truly sensational program that we know will appeal to you.
Prizes to the value of more than $15,000.00 are yours for the winning.
What is this all about?
Well, look for the postman on Saturday, March 15th; he will have an important message and package for you.
Signature."

On March 12, mailings again received attention. Salesmen were required to fill in a questionnaire, listing street address and residence, telephone number, time when the first morning mail was delivered, and they were questioned as to whether or not special delivery letters were delivered on Sunday and if personal mail was to be sent to their residence or to the post office box. The questionnaire closed with the request that salesmen send in any suggestions which would enable the home office to send letters faster.

The "family" angle played a prominent part throughout the campaign. Any salesman's effort is motivated, inspired and maintained by his family's interest, and this should be played up for all it is worth.

Further questionnaires were sent out, inquiring more closely into the married man's family: number of children, ages, school grade, etc. This was followed up by surprise telegrams increasing incentive for more calls and urging the family to do what it could to get the salesman out on the road.

Another feature of this contest was a short questionnaire asking each salesman which product he personally preferred to sell and why, and which product he preferred to feature second best and why. As the campaign con-


JOBBERS! We have the SOLUTION for your CLEANING PROBLEMS

OUR NEWLY IMPROVED LIQUID CLEANSERS—

*Zephyr-Brite* The better neutral cleanser. Compounded to give the maximum in economy for the safe, thorough cleansing of fine surfaces. Zephyr-Brite does more than dissolve the dirt and grime in the pores of the floors—it floats this dirt to the surface for easy removal. A more concentrated cleanser which enhances the beauty and prolongs the life of better floors and other fine surfaces.

*Veg-O-Scrub* A new high in the low-priced field. Made from pure vegetable oils — economical — efficient and neutral in action. A clear, viscous and uniform product. Especially recommended for cleaning wood, linoleum, asphalt tile, terrazzo and composition floors—WILL NOT INJURE ANY WASHABLE SURFACE.

*Also Manufacturers of*
Liquid Shampoos • Liquid Toilet Soaps • Surgical Soaps • Vegetable Oil Jelly Soaps
Disinfectants • Polishing Cloths • Liquid Metal Polish • Specialty Products

*Write for Description, Samples and Price List*

HAAG LABORATORIES, Inc.
14006 SEELEY AVENUE • P. O. BOX 114 • BLUE ISLAND, ILLINOIS
LIQUID SOAP SPECIALISTS

tinued, the usual progress charts informed each man how he stood in relation to other contestants.

The various letters, telegrams and bulletins told the story quickly, created a light, easy-to-laugh atmosphere, and instilled good selling habits. Illustrations and cartoons dressed up the story, explained and emphasized it.

Quite apart from the increase in the number of calls and sales, the information gained from a statistical analysis of its salesmen's days is proving valuable to management in planning future sales activities. These statistics show the number of calls made in each particular hour of the day, by each man in every zone and territory, and summarized for every geographical and product division. They establish the number of sales of soaps, sanitary chemicals and allied products made in each respective hour and the summation of same on a divisional or country-wide basis. They indicate the number of calls made and sales closed before and after regular working hours. These findings will naturally influence the company's selection of executives for future management positions.

Such a sales contest must be accompanied by the awarding of an adequate number of worthwhile prizes. In the contest just described, there were three sets of prizes awarded to national winners. These awards consisted of such items as a radio set, a set of matched golf clubs, a suitably engraved gold watch, a set of sterling silver flatware, an electric refrigerator, etc. During the campaign, the men were not advised that there would be more than one article for each winner and a most favorable reaction resulted when the winners each received four to eight prizes. The generous awards provided an excellent build-up for the next campaign. The offering of awards to winning salesmen's wives was also considered an important and valuable stimulant to maximum sales effort.

## DETERGENT-WASHED STREETS

(*From Page* 43)

detergents will find adherents among the municipal officials of progressive communities who are continuously trying to fulfill that demand. Considering the miles upon miles of urban streets, and the rapidity with which dirt accumulates, repackers and distributors of detergents may find this a market well worth cultivating.

## WHITE SHOE DRESSINGS

(*From Page* 41)

(22) as consisting of:

| | |
|---|---|
| Wax emulsion | 1 pt. |
| Gum mucilage | 1 pt. |
| Lithopone | 1 lb. |
| Titanium dioxide | ½ lb. |
| Camphor oil, sassafrassy | ½ oz. |
| Water | 1½ pt. |

The wax emulsion, specified above, is made from:

| | |
|---|---|
| Yellow carnauba wax, No. 1 | ½ lb. |
| White soap chips | 2 oz. |
| Water | ½ gal. |

Heat all the ingredients together with gentle stirring until thoroughly dissolved and a smooth emulsion is formed.

The mucilage is prepared by soaking ½ ounce of gum tragacanth in one pint of cold water for at least 12 hours until thoroughly softened and dispersed.

To make the dressing, add the camphor oil to the requisite quantity of wax emulsion, then stir in the gum solution. Mix the pigments and sift into the previously prepared solution, stirring constantly. Finally add the water slowly with constant stirring. It is said that the final product will not rub off, and cleans and whitens in one operation.

Another, more easily prepared wax-containing dressing may be made on the following lines: (14)

| | *parts* |
|---|---|
| Lithopone | 44 |
| Dextrin | 6 |
| Borax | 1 |
| Water | 47 |
| Candelilla wax | 2 |

The water is warmed, the borax dissolved in it and the wax added and stirred until melted and dispersed; after which the dextrin can be added. After cooling, water lost by evaporation is replaced before stirring in the pigment. A little blue dye and a preservative is added and, after grinding, the product is packed in tubes.

AMONG the first types of white shoe dressings which still find occasional demand are those provided in stick form. Convenient, inexpensive and easy to use, the major disadvantage of such products is their easy rub-off and short-lived action. A frequently cited (2, 11, 14) product of this type consists of:

| | *parts* |
|---|---|
| Calcium carbonate | 99.00 |
| Animal glue | 1.00 |
| Sodium salicylate | 0.05 |
| Water | 20.00 |

Dissolve the salicylate in about a quarter of the water. Then dissolve the glue in the water by means of heat. The calcium carbonate is placed in a kneading or paste mixing machine and the glue solution is added to form a plastic mass. When smooth and uniform, the paste is placed in heated molds and, after cooling, the sticks are removed and packed.

A more modern product of this type is made with: (4)

| | |
|---|---|
| Methyl cellulose (5% solution) | 6 gal. |
| Turkey red oil | 1½ lb. |
| White pigment | 30-40 lb. |

The components are kneaded together into a plastic mass from which molded sticks or blocks are formed. They may be left to dry naturally or drying may be hastened by means of a current of warmed air.

There are several highly specialized products for treating white shoes. Among these may be mentioned waterproofing lacquers, (11) so-called white shoe soaps (2) and patented fabric shoe cleaners. (23) Rating passing mention, are special cleaners for white suede shoes. A typical example of such products, better described as solvent cleaners and dressings, has been given by John (4) as follows:

| | |
|---|---|
| Isopropyl alcohol | 1 pt. |
| Carbon tetrachloride | 1 pt. |
| Butyl "Cellosolve" | 3 oz. |
| Triethanolamine oleate | 2 oz. |
| Titanium white, extra | ½ lb. |

Although considerable progress has been made in developing better white shoe dressings, there is still room for improvement. Producers who

(*Turn to Page* 167)

# SANITARY PRODUCTS

## A SECTION OF SOAP

AS PART of the mechanics of registration under the new federal insecticide law, private brand products present several knotty problems. Shall the product be registered by the manufacturer or by the owner of the brand who is in reality the distributor? If the manufacturer registers the product with the Department of Agriculture, merely filing the list of brand names under which any particular composition will be sold, a multiplicity of clerical details may ensue both for the manufacturer and the USDA as jobbers or distributors switch their sources of supply from one manufacturer to another. Inasmuch as this switching about has been common practice in the sanitary products trade, the numerous complications which may arise are quite apparent.

On the other hand, if the distributor registers the product with USDA, he assumes the responsibility under the law as registrant. He does, in fact, become liable for the acts of his supplier if the latter turns out a product either through error or otherwise which fails to comply with the registration data or the label. This responsibility many jobbers wish to avoid. They feel that inasmuch as they have no direct control over the manufacture of the products supplied to them by any number of different manufacturers, they should not be called upon to take the rap if something goes wrong.

As registration procedure under the new law shakes down into an established routine, most registrations undoubtedly will be made by the manufacturers. Those jobbers who have been prone to switch about on short notice from one supplier to another will find that this cannot be done overnight. The tendency, we feel, will be not to change suppliers upon slight provocation. However, two or three years of actual operation of the law will be needed to work out the best solution of this particular registration problem. In the meantime, we believe that it is sensible to sit tight with those suppliers who know the score and whose past record of performance has been good.

PLANS for the most extensive rat control program yet undertaken in the United States are underway at the U. S. Department of Agriculture,—a country-wide campaign designed to save over 300,000,000 bushels of grain alone during 1948. Spearheaded by the USDA working in cooperation with the Fish and Wild Life people and the leading trade associations, NAIDM, AIFA, NPCA and others, the scope of the plan to control rat depredations against stored and processed foods includes widespread activities by the Boy Scouts, Chambers of Commerce, health officials, and the like.

At a meeting held on December 4 in Washington and attended by industry and government leaders, a wide plan of educational publicity was outlined. The news comes too late to be included in detail in this issue, but is already beginning to break in the newspapers. We know that every firm in the sanitary chemicals industry will give 100 per cent support to this well-organized program.

TO US, the proposal to ban the use of metal cans for packaging certain "unessential" commodities struck a sour note. After viewing figures and hearing the views of experts in the can field, we can see little reason for this step backward into the realm of wartime rationing. Following the end of war controls on the use of metal cans, the manufacturers of these containers found themselves seriously short of steel to fill the unprecedented can demand. They undertook to make their short supplies of raw materials stretch so that all users might have their share of cans and so that none would be seriously hurt. By a system of individual company allocation of cans in accordance with previous purchasing history, the can companies themselves, without the need of government regulations, solved the problem satisfactorily. We feel that in the present emergency, they can do it again,—and better,—than any government agency. In our opinion, any such ban is unjust and wholly unnecessary.

# Practical Aspects of the QUATERNARIES

**By Jack C. Varley**
James Varley & Sons, Inc.

DURING the past year, numerous articles on quaternary ammonium compounds have been published, most of them of a highly technical nature dealing with purely scientific facts or theories concerning the action of these compounds or the tests developed for evaluating them. A great many packagers, distributors and users of these new products have only a hazy idea of just where the quaternaries fit into the broad disinfectant picture. The trade has somewhat confused the issue by referring to the chemicals sometimes as "sanitizing" agents, again as disinfectants, and on other occasions as detergents, "cation-active" agents and wetting agents.

In our effort to clarify this picture, let us first give regard to the use of quaternaries as "sanitizers" especially in connection with food handling. Almost every large city has either passed laws or has a law in the making whereby any establishment serving food or drink to the public must comply with certain standards of cleanliness. It has probably amazed most of us to discover what actually goes on behind the scenes in the restaurants in which we eat our meals. The publicity given to the grading of eating establishments on the basis of their cleanliness has probably, more than anything else, served to raise the health standards of such places.

In enforcing the new cleanliness regulations, the washing or cleaning of dishes and other eating utensils has been given a great deal of study. Contaminated eating utensils can quickly spread disease from one person to many others, if steps are not taken to destroy the bacteria that are deposited on said utensils.

It was about two years ago that general interest in quaternaries as sanitizers was first widely evidenced. Little was known of the mechanics by which these quaternaries destroyed bacteria, but they appeared to have very powerful bactericidal properties as well as great inhibitory value. There still exists quite a bit of confusion as to the ultimate or maximum killing potency of these compounds, but we do know that within certain limits under practical conditions they can be used as germicides, antiseptics and sanitizers with excellent results.

### General Characteristics

QUATERNARY ammonium compounds ordinarily are colorless, or at any rate completely colorless when in usable dilutions. These products are almost entirely without odor and in the solutions generally employed in practice have only a very slight taste.

Unfortunately, although most quaternaries on the market form profuse suds, they do not, of themselves, have very great detergent value. In fact by ordinary standards, their detergent properties are very poor. Glasses, dishes, knives and forks, etc. that are heavily contaminated with fat, grease, or other organic matter cannot be cleaned with the ordinary quaternary solution. It is necessary that the articles first be washed, preferably in a solution containing organic alkaline detergents, then rinsed in clear water to remove the detergent and then given a final rinse in the quaternary solution to destroy any germ life that still might remain on the article.

Solutions of quaternaries have shown no evidence of causing skin irritations, indicating that the hands can be in and out of the solution daily without any fear of injury to the user.

Because quaternaries, as a general rule, lower the surface tension of solutions, a greater opportunity is given to contact all surfaces, thereby insuring better disinfecting action.

There are a great number of quaternaries being offered the trade but too little is known concerning the true germicidal properties of most of them. A few of the compounds, however, have been under investigation for a number of years and the manufacturers are able to substantiate their claims from a chemical, bacteriological, toxicological, biological and practical usage viewpoint.

The compounder or distributor of quaternary ammonium compounds would do well to investigate material quality and his source of supply thoroughly before marketing a package for resale. The manufacturer's phenol coefficient claims alone are not sufficient grounds to market the product as a general disinfectant, sanitizer, deodorant, cleanser, and antiseptic. It is interesting to note that a cresylic disinfectant containing 50 per cent cresylic acid made by manufacturer "A" and another cresylic disinfectant containing 50 per cent cresylic acid made by manufacturer "B" will both have almost identical germ killing properties

provided the formulations are along the same lines. This doesn't hold true of quaternaries, however. A 10 per cent solution of manufacturer "X" 's product may show 50 per cent or 100 per cent higher germicidal activity than a 10 per cent solution of the product made by manufacturer "Y." Because of this wide variation in laboratory germ killing values it is necessary to control the dilution factor for these compounds when they are to be used under practical conditions. For instance, some of these quaternaries will destroy bacteria *in the laboratory* even when diluted as high as 1 to 100,000 with water. Under practical conditions of use in the actual sanitizing of eating utensils, however, this product might not destroy bacteria in a dilution greater than 1 to 8,000. A tentative procedure now being advanced by most manufacturers of quaternaries is to recommend that one part quaternary be added to 6,000 parts of water. (If employing a 10 per cent solution, this would mean 1 ounce of 10 per cent solution to 600 ounces of water, or 1 ounce to approximately 5 gallons of water). This solution, under practical conditions of use, has so far proven effective in almost completely destroying bacteria life in the final rinse solution.

### Detergent Value

QUATERNARIES are sometimes referred to as "wetting agents," "detergents" or "cationic detergents." It is true that most quaternaries lower the surface tension to a considerable degree and usually form volumes of rich suds. This is no indication, however, of detergent action. The fact that a product is a good detergent does not mean it is a good wetting agent and vice versa. An excellent wetting agent may possess very poor detergent qualities. Therefore, it is not in order to describe all quaternaries as detergents or to ascribe to them any great degree of cleansing power, especially in the concentrations generally recommended for sanitizing purposes.

The amount of suds that a quaternary compound produces in water is not an indication of its germicidal value any more than it would be an indication of its detergent property. Some quaternaries with relatively low sudsing value show excellent germ-killing properties, whereas others that form copious suds do not exert great bactericidal effect.

Many times the question has arisen as to whether or not the combination of an alkaline detergent and a quaternary can be used in one tank so as to both clean and sanitize the eating utensils in one operation. The answer is "NO." In a very short time the organic matter, (oils, fats, and debris from the eating utensils) would nullify the sanitizing properties of the quaternary, rendering it useless. When using quaternaries a minimum of two tanks is required for sanitization of eating utensils. Three tanks are preferable, but if only two are provided, the first tank should contain the cleaning solution and the second tank the quaternary solution for the final rinse.

It is in the field of disinfection that quaternaries are running into difficulty. The user of industrial disinfectants expects the disinfectant to clean as well as destroy bacteria. Most commercial disinfectants are formulated with mixtures of soap and some ingredient toxic to germ life. The claim is often made for these compounds, pine oil disinfectant, cresol compound, coal tar disinfectant and some of the newer synthetics, that they will clean and disinfect in one operation. Quaternaries alone cannot perform in this manner because of their low detergent value, and as quaternaries are not compatible with soap, the two cannot be used together with satisfactory germicidal results. The only other alternative would be to make a mixture of trisodium phosphate, tetrasodium phosphate or some other organic detergent with the quaternary and use the combination for cleaning and disinfecting inanimate objects. This evidently would be a rather unsatisfactory formulation because the phosphates would be too harsh for general use on floors, painted surfaces, metal fixtures, etc.

In addition, users of commercial disinfectants expect the customary deodorant characteristics.

### Uses

IN the past two or three years the use of quaternary ammonium germicides has become very widespread. Originally these products were employed primarily for disinfecting or cleansing in the operative field during surgery and to some degree for washing and scrubbing surgeons' hands and arms in aseptic surgical practice. For the disinfection of surgical instruments, quaternaries have not proven satisfactory unless some sort of inhibitor is used to prevent rusting or pitting of the instruments. Because the quaternaries exert a decided wetting action and lower the surface tension tremendously, they quickly cause oxidation of metal.

Recently a great deal of interest has been centered around the use of quarternaries for general disinfection purposes. These products are being put to use in a wide variety of industries including food establishments, dairies, pasteurizing plants, hospitals, homes and in swimming pools and for disinfection in laundries—along with dozens of other recommended uses. (See list at end of this article.)

Quaternaries are not by any means the answer to the search for the so-called "perfect disinfectant," although they do have a very definite place in the sanitation field. Their scope of use will no doubt widen in years to come, but at the present time the use of quaternaries seems to be

**Most quaternaries, in concentrations suitable for sanitation, are not recommended for use as detergents even though they give rich suds.**

more or less limited to sanitation problems and to a lesser extent disinfection and antiseptic measures.

The reader of this article will probably be more interested in the application of quaternaries in regard to sanitation in food establishments and we will elaborate a little on this particular phase.

First it might be well to offer at this point a brief explanation as to the difference between "sanitation" and "disinfection." The word "sanitized" is generally understood to indicate a degree of cleanliness that will insure safety to human beings. Drinking water, for instance, is considered safe for human consumption if the bacteria count is kept down below 100 per cc. "Sanitizing" of eating utensils indicates that the articles are free of bacteria to the point where there is no health hazard connected with the use of these utensils. Although not all of the bacteria may be destroyed, the few remaining are of no consequence because their numbers are so limited by exposure to the "sanitizer" that they are incapable of doing any damage to human life.

It is well known that pathogens (disease producing bacteria) are much weaker and more easily destroyed by germicides than the non-pathogens (those bacteria that do not produce disease symptoms or death). It would therefore follow, and this point has also been proven, that the few bacteria remaining after treatment with a sanitizing solution are of the non-pathogenic type and, therefore, are incapable of spreading disease from one person to another.

On the other hand, "disinfection" implies the destruction of *all* germ life. When an article has been "disinfected" it means that article is completely free of bacteria life (excepting spore-formers) and is for all practical purposes said to be sterile. It is around this point of complete kill, or on the other hand *almost* complete kill, that a great deal of confusion and misunderstanding has arisen concerning the application of quaternaries to practical conditions of use. Some contend that it is not necessary to kill all of the bacteria when sanitizing eating utensils, but that if the number of organisms is reduced below a certain point, there is no hazard insofar as use of these articles by humans is concerned. The other school of thought insists that a product used for sanitizing must destroy all the bacteria — in other words, must act like a disinfectant. If, for the sake of argument, we agree that a sanitizer does not have to destroy *all* of the bacteria, at just what point can a line be drawn? In other words, must a sanitizer be a product that will kill 95 per cent of the bacteria, 98 per cent, 99.9 per cent or 99.999 per cent? Results of recent tests show that quaternaries destroy about 99.99999 per cent of the bacteria when used in proper strength solutions. To the average person this would appear to be a high percentage of kill. It is—but under present regulations, a product cannot be called a disinfectant unless it destroys 100 per cent of the bacteria contacted. For this reason, quaternaries are today classed as "Sanitizers" *in connection with the cleaning and rinsing* of eating utensils.

Whether a sanitizer kills 95 per cent or 99.99999 per cent of the bacteria present is of little importance. It is important, however, that the number of bacteria be reduced to the point where their presence on eating utensils constitutes no health hazard. It is universally agreed that such a count must be less than 100 by standard test,—which is comparable to the bacterial count of safe drinking water.

Those selling quaternary ammonium compounds and recommending the use of their solutions for both *sanitizing* of eating utensils and for *disinfection* of inanimate objects, should be sure the label specifically outlines the proper strength solution for each recommended use.

### *Incompatibilities*

IT has been proven that as a general rule most quaternary ammonium germicides are not compatible with soap or soap solutions. Therefore, an article that is to be sanitized or disinfected with a quaternary ammonium solution should first be thoroughly cleaned, preferably with an alkaline detergent. Here again we run into another peculiarity in that there are certain alkaline detergents that are incompatible with most quaternaries. For instance, sodium metasilicate will completely void the germicidal potency of certain quaternaries and some manufacturers caution against the use of sodium tetraphosphate and sodium hexametaphosphate with their germicides.

Again speaking generally, the following alkaline detergents apparently can be used for cleaning articles to be disinfected with quaternaries with but little if any reduction of germicidal efficiency: trisodium phosphate, borax, sodium bicarbonate, tetrasodium pyrophosphate and sodium sesquicarbonate.

Apparently trisodium phosphate is most compatible with the general run of quaternary ammonium compounds. This may be due to the fact that the presence of trisodium phosphate raises the pH (alkalinity) of the solution considerably and quaternary ammonium compounds are nearly always more active in high pH solutions than in low. Care must be taken as to the amount of phosphate or alkali that is mixed with the quaternary as an excess may lower the germicidal potency of the solution to a very great degree.

It has been shown that small amounts of soap do not seriously affect the germicidal activity of most quaternary ammonium compounds but there is no way of the average user knowing whether he has "little soap" or a "lot of soap" in his solution. And there is no method of regulating the "carry over" of soap solution from the cleaning tank into the sanitizing rinse tank.

Presence of organic matter also seems to have a decided effect on the germicidal efficiency of quaternary compounds. By organic matter we refer to most food particles, blood, sputum, serum, urine, feces, oils, etc. Organic matter decidedly affects the action of nearly all commercial disinfectants. The solution of quaternary ammonium compound used for sanitizing purposes contains such a minute quantity of actual germicide (about 1 part per 6000 parts of water) that it can readily be seen that the presence of organic matter in almost any small quantity would be sufficient to absorb or inactivate the very small amount of

active germicide present—another reason why articles should be cleaned of all foreign matter and rinsed before immersing in the sanitizing solution.

Therefore, for all practical purposes it is recommended that one of the compatible alkaline detergents be used in washing articles that are to be given a final sanitizing rinse with a quaternary ammonium germicide.

### Testing of Quaternaries

AN excellent paper published by Dr. L. S. Stuart in the September 1947 issue of *Soap and Sanitary Chemicals* outlines the result of a great deal of research on testing of quaternaries and in conclusion points out the methods by which the U. S. Department of Agriculture will test those products offered for sale commercially.

As this article presents the subject from a practical viewpoint we will not go into detail regarding these testing techniques, but outline in the following two paragraphs the methods now being used for checking the germicidal value of quaternaries in the Department of Agriculture laboratories.

(1) The product will be tested against both *Staphylococcus aureus* and *E. typhosus* by the "F.D.A. Phenol Coefficient Method" of test with a few minor variations.

(2) The product will then be given a "use-dilution" test to determine whether under more practical conditions the product destroys bacteria as effectively as it does under standard laboratory procedures of examination.

### Concentrates

THESE cationic germicides are supplied by manufacturers in both powder and liquid forms. The powder forms are usually 100 per cent active material and can be diluted with alcohol or water (or mixtures of both) to form less concentrated germicides. Some compounders prefer to mix the 100 per cent concentrated germicide with alkaline or nonionic detergent powders, forming a dry mix that is then sold to the consumer for making germicidal solutions. To date, however, the liquid forms seem to be most popular, probably because of the ease with which they can be used and the fact that there is no mixing or dissolving to contend with insofar as the ultimate user is concerned.

### Possible Applications

1. To kill or diminish effects of bacteria.
2. Eliminate mold, slimes and algae—as in swimming pool, etc.
3. Sanitize dishes, china, glassware in hotels, eating places, bars, etc.
4. Sanitize and refresh coffee urns and towels, wash cloths, etc.
5. Refreshen articles by killing bacteria causing decay and putrefaction.
6. Washing clothes, towels, diapers, sheets.
7. Garbage can deodorant; stops decay and putrefaction.
8. Counter cleaning; sanitizer and deodorant in drug stores for syrup containers, etc.
9. Sanitize and refresh refrigerators.
10. Sanitize and refresh show cases for meat, food, and delicatessen stores.
11. Dairy sanitizer and cattle wash.
12. Vegetable displays.
13. Butcher shop sanitizer and fish market.
14. Fishing and pleasure boat sanitizer and deodorant.
15. Fishing boat preservation and for preserving specimens for mounting.
16. Cold sterilization of instruments for doctors, dentists, veterinarians.
17. Cleaning wounds and skin for operations.
18. Household freshener to kill animal odors and dirt.
19. Toilet and powder room sanitizer.
20. Refrigerator and meat box sanitizer.
21. Frosted food cabinet sanitizer.
22. Vegetable counter sanitizer.
23. Sprays for chicken houses—lower bacteria count.
24. Veterinary products — animal washes, dips, etc.
25. Athletes foot preventative.
26. Killing algae in swimming pools.
27. Mixed with DDT (an emulsifier is used here).
28. Cleaning beer dispensing equipment.
29. Spraying ice used for food preservation (consult health authority).*
30. Spraying ice used for fish preservation.*
31. Eliminating mold formation on meats.*
32. Washing vegetables before home quick-freezing.*
33. Washing citrous fruits to get rid of sprays used and stop mold.*
34. Treating leather goods to diminish mold.
35. Beverage plants — sanitizing and sterilizing.
36. Killing algae in air conditioning cooling systems and refreshening air (an inhibitor is added).
37. Sanitizing barber instruments.
38. Sanitizing dips for manicuring.
39. Laundry dips for sanitizing.
40. Sanitizing bathing suits.
41. Sanitizing milk containers, food boxes, thermos bottles.
42. Cleaning meat before home freezing.*
43. Washing fruits before canning.*
44. Washing shellfish before storage.*
45. Killing slimes on ropes, sailboats, motor boats.
46. Killing sick room odors; mustiness; washing sheets, etc.

* Applications like these may require approval of local health authorities.

Quaternary ammonium compounds are offered in liquid forms up to about 90 per cent concentrates and down as low as 10 per cent. The 10 per cent grade is most popular for consumer use and is the standard of most health authorities who look with favor upon this type of sanitation procedure. This indicates that the product as the consumer gets it contains 10 per cent of the anhydrous-quaternary combination, and the remaining 90 per cent usually consists of water.

### Cost

QUATERNARY ammonium compounds are more expensive per pound or per gallon than other commercially used industrial germicides including chlorine, cresol, pine oil and coal tar disinfectants. The manufacturers of the quaternaries contend that the higher cost is more than offset by the number of ways in which the material can be utilized, the fact that it is odorless, non-poisonous, non-toxic, non-corrosive and will stand very high dilutions with water and still retain germicidal potency. They also state that their products have much greater antiseptic value than other commercial disinfectants and, thereby, open a newer and wider field of usage.

Chlorine compounds certainly provide a lower cost method of disinfecting eating utensils but there is quite an objection by a great many persons to the odor of chlorine. These compounds also have the disadvantage of being corrosive to metals and highly toxic in concentrated form. The manufacturers of the quaternaries feel all the advantage is on their side when it is taken into consideration that even though the initial cost of quaternaries is somewhat higher than other chemicals the actual cost of use amounts to but a few cents per day—a small price to pay for effective, proven, odorless "sanitizing."

### Packaging

QUATERNARIES, because of their excellent wetting properties and the fact that they lower surface tension to a marked degree, are restricted as to the type of container in which they can be packed. When these new

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# NAIDM ELECTS BAIRD AT 34TH

GORDON M. BAIRD, Baird & McGuire, Inc., Holbrook, Mass., was elected president of the National Association of Insecticide and Disinfectant Manufacturers at the 34th annual meeting of the association held at the Lord Baltimore Hotel, Baltimore, December 1, 2 and 3, 1947.

The Baltimore meeting was a departure from the practice of previous years when the meeting has normally been held in New York. The attendance at this meeting was about 450, a figure somewhat lower than in the past few years.

The opening address, Monday morning was made by N. J. Gothard, Sinclair Refining Co., East Chicago, retiring president, who paid tribute to the officers, board members and to the members of the various committees for the immense amount of time and effort spent on association business during the past year. Stating that the passage of the new Federal Insecticide Act has been the most important happening for the industry during the past year, he pointed out that while the new law is not perfect in every respect, and is a compromise measure at best, it is nevertheless the law of the land and members of the industry must prepare themselves to operate within its framework. Mr. Gothard admitted that the past two seasons had been rather poor for manufacturers of household insecticides because of unfavorable climatic and other conditions but he predicted that, even with the aid of the new toxic materials, the industry will have plenty of work in supplying products for pest control during normal years. He observed that there has always been an insect control problem to face and that it will probably exist far into the future.

The report of the secretary, H. W. Hamilton, White Tar division, Koppers Co., Kearny, N. J., mentioned that the original purpose of organization of the N.A.I.D.M. in 1914 was for better understanding of the Insecticide Act of 1910, and that the Association has held to the line of that purpose during the past year, working with both federal and state bodies in the development and passage of new and uniform laws, and keeping its members informed of all progress attained. The secretary mentioned that although response from the industry was rather weak, and, in most cases, came after the law was in effect, most points in the original bill were corrected, and in general the law is sufficiently well drafted to meet most present day requirements. It is not the old law in new dress.

The secretary commented on the lack of uniformity in the laws of some of the states and said that the industry would be facing some high registration fees, particularly firms with many brands on the market. He stated that the "NAIDM Compilation of Economic Poison Laws" is now available to all the industry and that full cooperation with the new National Association of Economic Poisons Control Officials is expected which will be of benefit to all.

### *New Insecticide Law*

THE "New Insecticide Law" was the title of the first paper delivered Monday morning by W. G. Reed, Chief, Insecticide Division, Production and Marketing Administration, Livestock Branch, USDA, Washington. Dr. Reed's answers to seventeen questions on the new law are published elsewhere in this issue. "Registration Procedure" under the new law was discussed by Sanford J. Hill, E. I. duPont de Nemours & Co., Wilmington, who explained that under the new system, application for the registration of all products is made on a cover sheet. Attached to this will be product data sheets for each product to be registered and, when required, labels for each product. Mr. Sanford pointed out the need for careful and adequate filling out of the registration sheets and gave illustrations of how the cover sheets and data sheets should be filled out. His paper, together with examples of properly filled out data sheets, will be the subject of an article for early publication in this magazine.

### *Andressen Speaks*

GUEST speaker at the luncheon held Monday noon was the Honorable August Andressen, member of Congress from Minnesota, and sponsor of the new Federal Act. He admitted that the bill was rather technical and was difficult to set up "but since there are some fly-by-night companies in any industry, and the insecticide industry is no exception," it was a necessary bill and one that had to be carefully drafted. Congressman Andressen stated that when the law needs amending, the industry will receive full consideration. Speaking in the light of his recent trip to Europe, the Congressman offered that he had seen no evidence of mass starvation but that a

# ANNUAL MEETING

National Association of INSECTICIDE and DISINFECTANT MANUFACTURERS — Founded 1914

situation did exist that will not make for future stability in European economics and government. He pointed out firstly the need for the proper publicizing of our food gifts to Europe and secondly the necessity for the husbanding of our own natural resources. Stressing the need for production of an abundant food crop next year, Congressman Andressen said that the insecticide industry would play an important part in this effort. He emphasized that we should be "realistic" in our aid to Europe and suggested that the industry should have aid in its dealings with cartels and special interests when importing its raw materials from Europe and that European governments should be made to furnish us with needed raw materials without gouging.

### Sanitation Study Needed

STATING that the job of proper sanitation cannot be done with chemicals alone, Ferdinand A. Korff, Director, Bureau of Food Control, Baltimore City Health Department, stressed the need for proper education of food handlers on sanitation subjects and on the proper construction, installation and storage of equipment to facilitate the carrying out of sanitary measures. He stated in a paper titled "Modern Food Establishment Sanitation," that sanitary maintenance equipment should be made of metal when possible, and should be constructed so as to facilitate cleaning and dismantling. It should be stored or installed at least eighteen inches from walls, and walls and floors should be painted white for a distance of eighteen inches from their intersection. Meter boxes should be installed four inches from walls; materials should be kept on skids, and the use of false ceilings should be discouraged.

### Use of Census Data

BY following "cash farm income" figures, one can get some idea of what the insecticide industry should be doing financially said J. A. Van Swearingen, Bureau of Census, Department of Commerce, Washington, speaking on the subject of "The Contribution of the Census of Manufacturers to the Insecticide Industry." Some information that can be applied to the checking of sales in local areas can be derived from State census figures. Mr. Markwood of the Bureau of Foreign and Domestic Commerce offered the comment that a close correlation may be derived from the "gross national product" which is useful for determining figures on household insecticides. This term represents the value of goods produced and services paid for.

Rodney Crowther of the Washington Bureau of the *Baltimore Sun*, in an address titled "Taxes and Prosperity" spoke on the subject of economic conditions in general and on taxes as they apply to the different economic levels.

### Disinfectant Limitations

LIMITATIONS of disinfectants in the field was the subject of a paper entitled "Practical Aspects of Disinfectants" by W. L. Mallman, Professor of Bacteriology and Public Health, Michigan State College, East Lansing, Mich. Dr. Mallman stated that the property of a disinfectant to penetrate beneath the surface of various materials and carry out disinfection was one not measured by the routine tests of the laboratory. Few disinfectants have the property to penetrate organic matter and strike at bacteria. Dr. Mallman offered data showing reduction in kill due to the introduction of organic matter. He listed polyphosphates, pH, soaps, and anionic wetting agents as other factors affecting the activity of disinfectants. Concerning the measurement of the practicability of a disinfectant, he stated that there was no laboratory test for this purpose. The phenol coefficient test is satisfactory for regulatory purposes but does not tell "how" or "where" the compound can be used. Dr. Mallman's paper will be published in detail in a future issue of this magazine.

### Insecticide Future

COMMENTING on the "Future of Large Scale Insect Control Operations Through the Use of Insecticides," Dr. F. C. Bishopp, USDA, Washington, stated that no definite pattern of operation has yet been established for large-scale household insect control. The program thus far has been more in an experimental vein, but the results have been highly successful. Actual demonstrations of the service have proved to be the best way to introduce each new forward step. The public is becoming more insect control conscious and industry, government and the people must cooperate in order to make the most of this opportunity. The whole program could

(*Continued on page* 138)

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receive a serious set-back through careless manufacture and application of insecticides.

Speaking about the weaknesses of some of the newer insecticides, Dr. Bishopp explained that the effectiveness of DDT is reduced by the binding of its crystals when in a paint. He mentioned that experiments at Orlando show that flies can develop resistance to DDT after a few generations and that the possible development of resistant strains of insects is being given serious consideration. He gave as reasons for poor performance of insecticides: (1) poor formulation, (2) improper application, and (3) unusual climatic conditions.

### Testing Residual Activity

THE paper titled "A Method of Measuring the Direct Contact Insecticidal Effect of Residually Active Compounds on the House Fly," by Dr. C. W. Kearns, associate professor of entomology, University of Illinois, described a set-up and method for measuring contact insecticidal effect in which an insecticidal spray is introduced through a wind tunnel at low velocity.

### DDT Surface Migration

MORE information on the interesting and as yet unexplained phenomenon of DDT migration to the surface of coatings and binders was offered in a paper by Dr. S. S. Block, research engineer, University of Florida, Gainesville. With the hope of achieving a surface, exhibiting a more permanent insecticidal activity by the use of proper binders, Dr. Block studied some thirty-three coating materials. The results of his findings are discussed in his paper titled "The Activity of Insecticides in Protective Coatings," which will be published in an early issue of *Soap and Sanitary Chemicals*. The reduction in the 50 per cent knock-down time that occurred in all cases over a period of weeks is apparently due to the property of the DDT to migrate to the surface of the coating where it forms crystals. Dr. Block showed an example of this migratory action of DDT to the surface of a black asphalt varnish where the crystals of DDT caused a 50 per cent K.D. in seven minutes which was, in this case, as good as pure DDT itself.

### Fabric Preservative Tests

"TWO-YEAR Exposure Tests on Preservative-Treated Fabrics" was the title of the second paper presented by Dr. Block. He discussed the results of tests using various metals, organics and sulfur- and nitrogen-bearing organics including quaternary ammonium compounds, comparing the weathering of ten-inch strips of cotton duck with sizing removed. One per cent of the fungicide (based on the weight of the fabric) was the concentration of the fungicide used. After periods of one year and two years, the fabrics were rated on the basis of surface stain, mold growth and loss of breakage strength. Each series of tests included samples treated with a water repellent material. A 50 per cent loss in initial breakage strength was noted in a water repellent-treated strip compared with a 7 per cent loss occurring in the case of the untreated strip. It was found that 1 per cent preservative is not enough preservative for two years' weathering. Copper, silver and cerium salts were the only ones that prevented a loss of less than 50 per cent of breakage strength. Comparisons were made in each case with a laboratory soil burial test and it was found that in the field, ultra-violet light from the sun caused considerable amounts of fabric degradation, and in the soil, there was more evidence of protection from surface molds. Comparison tests with metals, led to the conclusion that the anions appeared less important as preservatives than as binding agents for holding the metal to the fabric. Dr. Block's paper on exposure tests on preservative-treated fabrics will be published in detail in an early issue of this magazine.

The paper "Antu II—The Lethal Dose" by Dr. J. C. Munch, Albert R. Latven, and Aaron B. Sloane, Munch Laboratories, Upper Darby, Pa., was delivered by Mr. Latven and will appear in an early issue.

He pointed out various factors influencing the effective or lethal dose of a substance, namely the method of administration, altitude, temperature, humidity, barometric pressure, diet and other environmental factors, as well as age, weight and sex of the animal. He mentioned that often the influence of strain and source of species is disregarded. He reported on tests indicating a seasonal variation in lethal dose of about 25 times the absolute value for standard ANTU and 50 times for the commercial product. The need for expressing the potency of each commercial brand in terms of a reference standard is thus indicated. No explanation for this seasonal variation was offered.

Election of association officers was held Wednesday morning, and in addition to the election of Mr. Baird as president, the following were elected: L. D. Oppenheimer, West Disinfectant Co., Long Island City, N. Y., 1st vice-president; C. L. Weirich, C. B. Dolge Co., Westport, Conn., 2nd vice-president; John Powell, John Powell & Co., re-elected treasurer; and H. W. Hamilton, White Tar Div., Koppers Co., Kearny, N. J., re-elected secretary. Members elected to the board of governors are: Melvin Fuld, Fuld Brothers, Inc., Baltimore; N. J. Gothard, Sinclair Refining Co., East Chicago, Paul Robbins, Geo. B. Robbins Disinfectant Co., Cambridge, Mass., and R. P. Neptun, S. B. Penick & Co., New York.

Six papers were presented during the morning session of Wednesday, December 3rd at which A. W. Morrison, Socony-Vacuum Oil Co., New York, presided. Mr. Morrison, who was in line for the 1948 nomination as NAIDM president, stepped aside this year in view of the fact that his company has discontinued its insecticide line for the present.

An interim committee of the chemical analysis disinfectant section was made up to carry over until such time as appointments can be made by the new president. Appointed were: Dr. C. A. Laurance, Winthrop Chemical Co., Rensselear, N. Y., Dr. Adrian DuBois, Fuld Brothers, Inc., Baltimore, Saul Epstein, Emulsol Corp., Chicago, and Perry Bartlett, Rohm & Haas Co., Philadelphia.

### *Testing Sanitary Chemicals*

ADRIAN DuBOIS and Harry Broll, Fuld Brothers, Inc., Baltimore, were the authors of a paper titled "End-Use Laboratory Testing of Sanitary Chemicals." In his paper, Dr. DuBois stressed the need for simplicity in the tests for sanitary chemicals, stating that the tests should be set up to obtain reproducible results and to give only the needed information without going to limits of accuracy beyond that necessary. He said that the ultimate user cares more about what the compound will do rather than what is in it. He emphasized the need for manufacturers of basic products in the sanitary chemicals field to furnish more information regarding their products, information that would place their distributors, and those who repack and sell proprietary brands, on a surer footing regarding their products and would offer them sounder sales information. Dr. DuBois went on to illustrate his point about simpler laboratory evaluation test methods by demonstrating a detergency test in which he compared the detergency of two non-ionic detergents with a reference standard. In conclusion, he mentioned the importance of evaluating a product in terms of a combination of tests rather than on the strength of one or two.

### *Test for Quaternaries*

A RAPID, one-reagent test for determining concentrations of quaternary ammonium compounds was described in the paper presented by T. L. Flanagan, Jr., T. J. Drennen and G. R. Goetchius, entitled "Determination of Quaternary Content in Sanitizing Solutions." Mr. Goetchius, who read the paper, stated that the reagent, a sodium salt of a condensed aryl sulfonic acid, is added to a given amount of quaternary in a sanitizing solution in a test tube, and at a critical concentration of quaternary, a precipitate is formed. A dye is added to the reagent to make the precipitate more visible. An excess of the reagent, however, might cause the precipitate to re-dissolve. The method is said to be accurate for measuring many of the quaternaries in concentrations higher than about one part in five thousand.

Mr. Goetchius also described a test known as the SNS (sodium naphthalene sulfonate) test in which the end point is indicated by the disappearance of the precipitate as the sulfonate reagent is added dropwise to the sanitizing solution of quaternary in a test tube. No color matching is necessary.

**Three convention papers appear in this issue. Dr. E. G. Thomssen discusses soaps in the sanitary chemical field—page 33. W. G. Reed, Chief, Insecticide Div., Production & Marketing Admin., USDA, answers questions on the new insecticide act—page 141. J. N. Borglin, Hercules Powder Co., discusses naval stores chemicals — page 147.**

### *Government Specs*

"PERFORMANCE Standards in Government Specifications" was the topic discussed by Harry Fleisher, Bureau of Ships, Navy Department, Washington, D. C. and chairman of the technical committee on detergents, Bureau of Federal Supply, U. S. Treasury Department. Mr. Fleisher explained that purchase by specification is a *must* for the government and that three types of specifications have been set up. In the "composition" type, the exact chemical make-up is the basis and maximum and minimum tolerances are set up. Such a specification is not too suitable for the formulated type of product. It also precludes the use of newer and better ingredients. Moreover, it is possible to vary ingredients slightly and stay within the specification. The "property" type of specification is based on the desire for a product offering certain properties and has a weakness in that there is no assurance that the product will always have the same composition. The most desirable type of specification, according to Mr. Fleisher, is the type based on "performance." This type generally calls for a minimum acceptable requirement and provides the fairest means of comparison of various products. He spoke of the excellent cooperation that now exists between government and industry technical personnel engaged in developing new specifications and asked that those in the industry interested in the proper development of specifications meet and keep in contact with members of the specification committees. He named the following committee heads. Dr. E. L. Griffen, USDA, committee on insecticides, fungicides and rodenticides; I. B. Morgan, Army Chemical Center, Washington, technical committee on chemical products; Harry Fleisher, Bureau of Ships, Navy Department, Washington, D. C., technical committee on detergents and sub-committee on disinfectants.

### Gov. Building Maintenance

Charles C. Staadt, chief, chemical sanitation division, Office of Engineering and Research, Public Buildings Administration, Washington, addressing the meeting on the subject of Building Maintenance, reminded that the government is the largest maintainer of public buildings, with 350 buildings and 46 million square feet of floor space in the District of Columbia, and 450 buildings with 25 million square feet of floor space located outside of the district. He mentioned a government need for a neutral cleaner requiring little or no rinsing, efficient in hot or cold water, and leaving no objectionable deposit. Discussing government methods of maintenance, he explained that electric power scrubbing machines with vacuum scrubbing are generally used and often there is no rinsing. Hot water is not always available and therefore there is a limit to the value of soaps. Alkaline salts were pointed out as hard on workers' hands because most employees make up solutions too

(*Turn to Page* 151)

# THE WISCONSIN ALUMNI RESEARCH FOUNDATION

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### for the Biological Evaluation of Agricultural and Household Insecticides

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# Applying new INSECTICIDE ACT

## *Eighteen questions with their answers are offered to enable industry better to comply with the new law*

**By W. G. Reed***
Chief, Insecticide Division, Livestock Branch
United States Department of Agriculture
Production and Marketing Administration

SINCE the June meeting of the N.A.I.D.M., the Federal Insecticide, Fungicide, and Rodenticide Act has become a law. Your association has submitted a number of questions of general interest concerning the application of this law and I shall attempt in question and answer form, to clarify some of the points which have been raised.

1. In an insecticide which contains 100 per cent active ingredients and the label names them with the proper percentages according to law, is it necessary to state "Inert Ingredients, None"?

No; the words "Inert Ingredients, None" need not be used. It will be satisfactory to give the name and percentage of each active ingredient under the heading "Active Ingredients" or to state "Active Ingredients 100 per cent" and list under it the names of the active ingredients in the order of their predominance.

2. If all the ingredients of an economic poison are active, will the ingredient statement "Active Ingredients 100 per cent," without naming the ingredients, meet the approval of the Department?

This form of statement is not sufficient to meet legal requirements. At least the names of the active ingredients must be given in all cases.

3. In declaring the percentage of active ingredients in a herbicide, in which 2-4-D is the active principle, which compound is to be listed as the active principle, the acid itself, or the salt?

The actual compound of 2,4-dichlorophenoxy acetic acid (2,4-D) present in the economic poison will be the active ingredient. However, much of the work on weed killers has been evaluated in terms of the acid. Therefore, a statement of the equivalent amount of the acid is desirable. For a weed killer containing 50 per cent of the sodium salt of this compound, an acceptable form of statement would be:

| | |
|---|---|
| ACTIVE INGREDIENT | |
| Sodium salt of 2,4 dichlorophenoxy acetic acid..... | 50% |
| (Equivalent to 2,4 dichlorophenoxy acetic acid —%) | |
| INERT INGREDIENTS ..... | 50% |
| Total ..... | 100% |

4. In a DDT 5 per cent household spray, in which it is obvious that the residual effect is predominant, can the petroleum carrier and other solvents be listed as active ingredients?

We assume that the article referred to is 5 per cent DDT in deodorized kerosene base with possibly some other solvent oil. In such a product the kerosene would have practically no value as a residual insecticide but such products are ordinarily applied where such insects as bedbugs, moths, and fleas are present. Kerosene is a contact insecticide for these insects. Accordingly, we have considered kerosene to be an active ingredient in products of the kind indicated.

5. In giving the weight of an economic poison on the label, will the statement "Average weight — ounces" meet the approval of the Department?

It is assumed that the correct value for the weight is to be inserted in the blank space and that the product is a solid. No objection is raised to this form of statement but attention is directed to regulation 162.6(d)-(4) which provides that variation shall be permitted only to the extent that it represents deviations unavoidable in good packing practice, that the average quantity in the packages in a shipment shall not fall below the average quantity stated and that there shall not be any unreasonable variation from the average in the contents of any package.

6. It has been the practice in the manufacture of moth pads weighing approximately four ounces or less to leave the net weight off the label, provided the proper dosage and usage were prescribed and correct on the label. Will this practice continue to be permitted under the new regulation?

No. The new act is specific in requiring the net weight or measure of the content to appear on the label. The Insecticide Act of 1910 does not require a net weight declaration.

7. In the past, essential oil perfumes at the rate of four to eight ounces per hundred pounds of naphthalene or paradichlorobenzene have not been considered in the ingredient statement other than as "Active In-

* Before 34th Annual Meeting, National Association of Insecticide, and Disinfectant Manufacturers, Baltimore, Maryland, December 1, 1947.

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. . . now more valuable than ever

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**D-30 SOLUTION,** a 30% DDT concentrate for use in the manufacture of oil-based sprays.

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**D-50 WETTABLE POWDER,** a 50% water-dispersible powder for a residual action spray.

**RHOTHANE,** comparable to DDT in killing power, substantially less toxic to human beings and warm-blooded animals. Available in quantity in solvent solutions, dust concentrates and wettable powders.

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gredients." Will this practice continue to be considered as meeting the approval of the Department?

Essential oils or perfumes in the proportions stated are considered as active ingredients in naphthalene and paradichlorobenzene used for moth control. They may be stated as "Essential Oils" or "Perfumes."

8. It has been the practice of manufacturers of naphthalene and paradichlorobenzene to ship these chemicals in bags or barrels in interstate commerce (a) without placing the name of the economic poison on the label or container, (b) placing the name of the economic poison on the label or container but giving no ingredient statement and/or dosage or prescribed method of use. Will this practice continue to meet the approval of the Department?

Naphthalene and paradichlorobenzene, which are economic poisons within the meaning of the law, cannot be legally shipped under the new act in the manner stated. The label must show the name of the product, the name and address of the manufacturer or distributor, the net contents, and the ingredient statement. In most cases where these products are marketed in large bags or barrels to large users for moth control, directions for use will not be necessary to protect the public. Those which are marketed in small packages for household use should bear full directions for use.

9. The names "Para-Nap," "Para-Pure" and "Para-Cur" are presently being used by manufacturers as trade names on moth preventives containing various proportions of paradichlorobenzene and naphthalene as active ingredients. Will the use of this type of a trade-mark continue to be permitted by the Department?

The names "Para-Nap," "Para-Pure," and "Para-Cur" are not objectionable under act in those cases where they are not misleading. We would understand them to mean as follows:

"Para-Nap"—a mixture of paradichlorobenzene and naphthalene with the former predominating.

"Para-Pure" and "Para-Cur"—both straight paradichlorobenzene.

Incidentally trade-marks are issued by the Patent Office of the Department of Commerce. No effort is made by our office to determine a manufacturer's right from that standpoint to the use of a particular trade name.

10. Under (e) Active Ingredients, section (3), which states, "Is not antagonistic to the activity of the principal active ingredient," we would like to have a better clarification of this particular statement. We do not believe that this is interpreted the way one of the men studying this law interpreted it. Therefore we would like to have a further clarification. Take for instance a 5 per cent solution of phenol in water, the active ingredient would be the phenol, but the water is certainly not antagonistic, and therefore might be construed to be active according to that definition. We would like to have this particular phrase clarified.

The definition of "Active Ingredient" in regulation 162.2(e) includes three requirements, all of which must be met if the ingredient is to be considered active. In the example given, water is not antagonistic to the phenol and, therefore, meets one requirement. However, it is not, in itself, capable of disinfecting and, therefore, does not fulfill the first requirement. It is accordingly an inert ingredient.

11. This is a request for a clarification of the definition as misbranding of "any statement directly or indirectly implying that the economic poison or device is recommended or endorsed by any agency of the Federal Government."

The Federal Government does not recommend or endorse specific proprietary articles. It does, however, recommend types of material. This differentiation should be carefully noted. Thus, while it would be misleading to state that the Department of Agriculture recommends "Doe's Paradichlorobenzene" for moth control, there would be no objection to a statement that the Department recommends paradichlorobenzene for this purpose, giving the conditions under which it is recommended and its limitations.

A statement that this product was used by the armed forces during the war is quite likely to be misleading. It implies general use of a product of exactly the same formula under the same label. It would be necessary to consider the circumstances in the particular case before one could say whether such a claim might be justified.

12. In case a disinfectant or an insecticide contains 100 per cent of active ingredients and contains no inactive material, is it required that both the nature and the percentage of each active ingredient shall be printed on the label?

It is required that the names of each of the active ingredients must be given but their percentages may be omitted if the ingredients are named in the order of their predominance. For example, the following statement would be acceptable for a household insecticide consisting of petroleum distillate and pyrethrum extract:

Active Ingredients..... 100%
Petroleum distillate
Pyrethrins

13. Would the Department be willing to classify the commercial standard disinfectant and insecticide such as pine oil No. CS 69-38, phenolics No. CS 70-41 and CS 71-41, hypochlorite CS 68-38 and the standard insecticide liquids,—as to the required warning or caution statements, i.e., "Poison," "Danger," "Warning," or "Caution"?

We do not have full information as to the toxicity of all economic poisons. However, it is our opinion that none of the products mentioned in the question come within the definition of highly toxic to man, as given in regulation 162.8. The following caution statements are suggested:

*For Pine Oil Disinfectant*, none.

*For Phenolic Disinfectants* (both soluble and emulsifying types):

Poison if taken internally (or some warning statement of similar significance).

*Caution:*
Avoid prolonged or repeated contact with the skin.
Avoid excessive inhalation of fumes.
Keep away from children, domestic animals, and foodstuffs.

*For Hypochlorites*—

Those containing over 10 per

# MERCK IS SERVING THE INSECTICIDE INDUSTRY AS A BASIC SOURCE OF SUPPLY FOR DDT

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**DDT**

TECHNICAL

(dichloro-diphenyl-trichloroethane)

***Setting point 89° C. Minimum***
***For Manufacturing Purposes Only***

Please address your inquiry to the Insecticide Products Department, Merck & Co., Inc., Rahway, N. J.

**DDT** TECHNICAL

**For the Manufacture of Agricultural, Livestock, Horticultural, and Household Insecticides**

MERCK & CO., Inc. RAHWAY, N. J.

*Manufacturing Chemists*

New York, N. Y. · Philadelphia, Pa. · St. Louis, Mo. · Chicago, Ill. · Elkton, Va.
Los Angeles, Calif. · *In Canada:* MERCK & CO., Ltd. Montreal · Toronto · Valleyfield

MERCK

cent available chlorine and marketed in packages suitable for household use are subject to the Federal Caustic Poison Act and must bear the poison and antidote label as required by that act. For hypochlorites which contain less than 10 per cent available chlorine, the following is suggested:

*Caution:*
Irritating to the eyes, skin, and lungs.

*For Household Insecticide, Liquid—*

These should bear a warning to avoid spraying in the presence of open flames. The caution statement would depend on the toxicant present. None is required in the case of pyrethrum sprays, except that if they are recommended for use against fleas they should not be sprayed on the animals. In the case of sprays containing DDT, they should bear a caution such as the following:

*Caution:*
This solution if brought into repeated or prolonged contact with skin can cause toxic symptoms. Avoid excessive inhalation and skin contact. In case of spillage on the skin wash with soap and water. Avoid contamination of foodstuffs. Do not use on household pets or humans.

14. What procedure shall a manufacturer follow to ensure that the label which accompanies the application for registration will meet with the approval of the Department? Will the Department assist by commenting on preliminary drafts of labels?

As in the past, we are glad to comment on preliminary drafts of labels to aid manufacturers in bringing them into compliance with the law. However, we believe that in most cases the best progress will be obtained if the manufacturer will carefully read the law, the regulations, and the instructions on the back of the form of application for registration, and on this basis make whatever revision he may consider necessary before submitting it for registration. He may, if he desires, in the first submission, show the label changes in pencil or typewritten form and not actually print the label until its acceptance has been indicated. If labels are submitted in this forms, sizes of type, position, and colors should be clearly indicated. Registration will, of course, be based on the finished label.

15. Have you any official interpretation (relative to inclusion of disinfectants as economic poisons) which might be helpful?

Since the definition of fungi (section 2 i of the act) includes bacteria, except those on or in living man or other animals, disinfectants, which are intended for use on inanimate surfaces, are economic poisons within the meaning of the act.

16. For many years we have been selling our products to dealers and jobbers under plain direction labels, on which neither our trade names nor the name of our company appear. These items are equivalent to corresponding products in our consumers line, which are sold under registered trade names. Under the circumstances, would we be required to designate each product in our plain labeled jobber's line by trade name and to print our name and address on the label?

The act prohibits the shipment in interstate commerce of any economic poison unless it has been registered and unless, among other things, its label bears the name, brand, or trade-mark under which it is sold and the name and address of the manufacturer, registrant, or person for whom manufactured. However, in the registration section there is a proviso that if the claims and composition are the same, additional trade names and names of distributors may be added by a supplemental statement. Thus it would not be necessary for the actual manufacturer's name or trade-mark to appear on all labels but in such cases the distributor's trade name and his name and address must appear on the label when shipped and these must have been submitted in connection with the registration.

17. In the case of scabies and mange, which are caused by insects of tiny size, are the products sold for the treatment of these under the present act, the drug act, or both?

How about products for treating body lice?

Products intended for use against scabies, mange, and body lice are economic poisons within the meaning of the act. Therefore, if shipped in interstate commerce, they must be registered and are subject to the other provisions of the act. Those products intended for use against scabies and mange are also subject to the Federal Food, Drug, and Cosmetic Act. To avoid any conflict in the enforcement of the two acts, a cooperative arrangement between Production and Marketing Administration and Food and Drug Administration has been set up.

18. What will be the policy in enforcing the new act in those cases where a manufacturer has on hand an existing stock of labels which in minor respects do not comply with all features of the new act, but which are in compliance with the Insecticide Act of 1910?

The manufacturer should first prepare corrected labels. Corrections may be shown on his present label but should clearly show the wording to be used, sizes of type, position on label, color, and any other pertinent information. These labels should be submitted for registration and any labels printed in the future should be only those which have been accepted for registration. If the manufacturer has on hand a stock of labels which in minor respects fail to comply with some of the features of the new act but which are in compliance with the Insecticide Act of 1910, and if the discarding of these labels would cause serious loss or inconvenience, he may submit a statement of the number of labels and when they will probably be disposed of, requesting permission to use them up. If it appears that the faults are of such a nature that continued use of the labels for a limited time will not be unduly detrimental to the public interest, he will be informed that legal action will not be instituted to prevent their use for a reasonable period of time.

—— ♦ ——

Nitrophenols such as 4,6-dinitro-ortho-cresol, are mixed with concentrated sulfite lye and clay, with addition of mineral acid, to give a brownish yellow liquid insecticide. N. V. de Bataafsche Petroleum Maatschappij. Dutch Patent No. 56,968; through *Chem. Abs.*

# *One good product deserves another*

**Your** product is *right!* You've seen to that—in laboratory development, packaging, and promotion. But, the biggest other factor required for peak sales is *proper application.* That's where **we** come in.

With a Hudson sprayer, your product will do its most effective job—easily used without muss or waste — to the lasting satisfaction of the user.

Hudson sprayers and dusters are designed for perfect application of any insecticide, disinfectant, mothicide, or deodorant. They will assure the kind of results that build repeat business and put your brand name on the preferred list.

Let a Hudson representative suggest the exact sprayer or duster that your product deserves. Write us at once.

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**H. D. HUDSON MANUFACTURING COMPANY • 589 E. Illinois Street, Chicago, Illinois, U. S. A.**

HUDSON

TESTED AND PROVED EQUIPMENT

# NAVAL STORES CHEMICALS in the Disinfectant Field

**By J. N. Borglin***
Hercules Powder Company

NAVAL stores chemicals comprise a group of chemically related compounds, all of which are produced either from the gum or wood products.

### Pine Oil

WHILE naval stores products were known to the Phoenicians who used them in the caulking of wooden ships, it was not until 1915, that the true value of naval stores products as germicides was recognized. In that year, Stevenson (1) of the U. S. Public Health Service advocated the use of pine oil emulsion (Hygienic Laboratory Formula) as a general disinfectant. This pine oil emulsion had a phenol coefficient of 3.5 to 4.0 and could be used at any dilution up to 1 in 500.

Later, McCoy, Stimson, and Hasseltine (2) showed that the Hygienic Laboratory Formula was well adapted to the disinfection of intestional discharges, but was deficient against pyogenic organisms; hence, it should be confined to bacillary infections such as typhoid fever, cholera, and bacillary dysentery. This was further confirmed by Walters (3) who showed that pine oil was less effective than phenol against S. *aureus*. Shippen and Griffin (4) reported that for all practical purposes, pine oil disinfectants were of little value against *Micrococcus aureus*, S. *aureus* and spores of *B. Anthracis*. They also reported that pine oil disinfectants were stable and did not deteriorate on aging.

Reddish (5) showed that the Hygienic Laboratory pine oil disinfectant would destroy all micro organims which cause communicable diseases when used in proper dilution. A study of pathogenic bacteria in public places by Walter and Hucker (6) showed that pine oil emulsions were effective in destroying most of the streptococci and coliform organisms incubated onto oak flooring.

Since pine oil, which is a mixture of terpenes and so-called oxygenated terpenes (alcohols, ketones, etc.), has definite germicidal properties, it was logical to ascertain the properties of individual terpenes and oxygenated terpenes. Extensive studies by De (7) and also others (8) showed that the terpene hydrocarbons had low phenol coefficients. Esters of the terpene alcohols had low phenol coefficients, but these were higher than those of the hydrocarbons. Terpene alcohols, however, had high phenol coefficients, showing that for maximum phenol coefficients, pine oils high in alcohol content are a requisite.

Most of the constituents in pine oil are unsaturated and are amenable to hydrogenation and also disproportionation. In the case of hydrogenation, saturated products are formed such as dihydro-alpha-terpineol. The latter has a lower phenol coefficient than alpha-terpineol. Disproportionation of pine oil yields a mixture of saturated and unsaturated analogues of alpha-terpineol such as dihydro-alpha-terpineol and also 8-hydroxy-para-cymene. This mixture of analogues has a lower phenol coefficient than pine oil.

It is generally accepted that unsaturation frequently enhances the germicidal activity of many compounds. The other substituents in the molecule and their position are also important factors. These factors were recognized by De (7) as a result of his studies.

When terpene hydrocarbons or alpha-terpineol are converted into ethers such as terpinyl methyl ether, terpinyl glycol ether, etc., or if alpha-terpineol is converted into the corresponding ethers, it is found that these ethers possess phenol coefficients much lower than the coefficient of pine oil.

To date, pine oil constituents have not been successfully modified chemically to enhance their germicidal properties. It is generally accepted that pine oil is an effective germicide. The Hygienic Laboratory Formula when used in proper dilution, has been found effective against the following organisms: *str. viridans, str. scarlatinae, str. hemolyticus, str. nonhemolyticus, pneumococcus Type II, B. diphtheriae, B. dysenteriae, B. pyocyaneus, B. enteritidus, B. typosus, B. paratyphosus, A. proteus*, and *B. proteus, B. coli, P. Pestis, B. cholerae*, and *tubercle bacillus*. It is also effective against S. *aureus* when applied as a wet dressing in dilutions not greater than 1:150 with water. It is, no doubt, effective against other organisms.

Pine oil emulsions have low phenol coefficients against a few specific types of bacteria which is also true of the individual pine oil constituents. The addition of other products to pine oil has materially increased the overall phenol coefficient. For example, the addition of thymol or carvacrol to pine oil increases the phenol coefficient. The addition of halogenated phenols was shown by Klarmann (9) to increase the phenol coefficient materially. This improvement is a case of synergistic action. Phenyl substituted phenols

* Before National Association of Insecticide and Disinfectant Manufacturers, Baltimore, Md., December 1, 1947.

# How it's made is what counts most

*if bubble-gum, or any other product for that matter, didn't give out with a "bubble" when used, you'd be* sure *that it wasn't made right, even if the best ingredients were used.*

Can you picture the bewilderment of a child that just paid out a hard-earned nickle for bubble gum that just wouldn't bubble? If it bubbles though, the happy surprise and grin of satisfaction alone are worth the nickle. That gives you a good picture of your own customers too . . . selling them a floor wax that doesn't perform on the floor creates not just bewilderment, but down-right loss of sales to you. If the floor wax performs just right, then, you have a steady customer that competition vainly tries to take away.

Years ago we at Candy & Company reasoned that the best product must be developed by years of painstaking research until a method of manufacturing plus the right ingredients produced the results desired. Now, no customer of ours is answering up to the predicament that a bubble-gum that just doesn't bubble creates. After more than 55 years, we offer you Candy's Supreme, Deluxe and Bright Beauty Floor Waxes. You can sell them with confidence and outsell others consistently. Want steady, liberal profits? Then, start now to brand our waxes with your own label.

## PRODUCTS OF DISTINCTION thru PERFECTION IN MANUFACTURING

**CANDY'S SUPREME Self-polishing Floor Wax**

Candy's Supreme was just recently introduced to distributors. Another product resulting from our constant research and experiment with higher quality self polishing waxes. Goes a step farther in providing a wax with greater resistance to traffic abrasions.

**CANDY'S DELUXE Self-polishing Floor Wax**

A recent post war development that has all the features of Bright Beauty wax plus greater resistance to discoloring traffic marks and, therefore, is more durable.

**CANDY'S BRIGHT BEAUTY Self-polishing Floor Wax**

Features ease of spreading . . . dries rapidly to a beautiful lustre, free of streaks . . . Permits buffing to a high gloss and ready blending of traffic marks. Here is a wax that has light color . . . pleasing odor . . . perfect emulsion, maximum durability. Reasonably non-slippery . . . water resistant and readily removable for rewaxing.

## SOLD ONLY BY DISTRIBUTORS

*Packed in attractive containers under your own label . . . never sold direct to the consuming trade (except for experimental accounts in Chicago, essential to research). Competitively priced, yet can be sold by you with a liberal margin of profit.*

***Experimental samples on request***

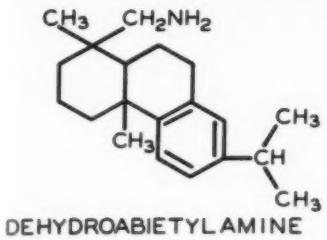
*Wax Specialists for over 55 years*

**Candy & Company, Inc.**

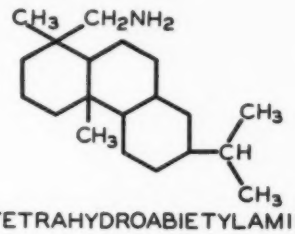
2515 W. 35th ST., CHICAGO

**MANUFACTURERS OF PREPARED PASTE WAX, SPIRIT LIQUID PREPARED WAXES, POWDERED DANCE FLOOR WAX, CREAM FURNITURE POLISH**

## MAJOR COMPONENTS OF ROSIN AMINE D




DEHYDROABIETYLAMINE

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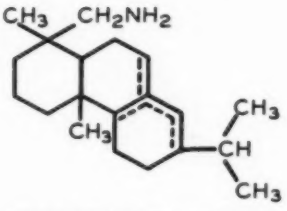
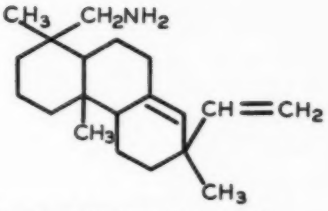



DIHYDROABIETYLAMINE

(PROBABLE POSITIONS OF THE SINGLE DOUBLE BOND)




DEXTROPIMARYLAMINE

also improve the phenol coefficient (10).

### Rosins

IT has long been known that soap solutions have a definite germicidal action (11) (12) and that the soaps of the short-chain length ($C_8$, $C_{10}$, and $C_{12}$) saturated fatty acids and those of the unsaturated fatty acids have a stronger germicidal action than do those of the longer-chain saturated fatty acids. Walker (13) (14) (15) reported that sodium resinates (rosin soaps) had greater germicidal action than soaps of the common fatty acids.

The soap of "pyroabietic acid," which is a mixture of dehydro-, dihydro-, and tetrahydro-abietic acids, was shown by Fleck and Palkin (16) to be more active than the soap of ordinary rosin. Stuart and Pohle (17) (18) also found rosin soaps were more effective germicides than fatty acid soaps and that the sodium soaps of abietic, dihydro-abietic, and tetrahydro-abietic acids were more effective than those of ordinary rosins. Decrease in unsaturation of the resin acids improved their germicidal activity. The foregoing was confirmed by the writer (19) who showed that a commercial hydrogenated rosin was superior to tallow soap and also tincture of Green soap when tested against *S. aureus*.

### Rosin Derivatives

MANY new naval stores chemicals have been prepared in recent years and evaluated in indicated fields. This includes the disinfectant field.

One product has recently been developed which has shown promise in the disinfectant and other fields of application. This product is a modified rosin amine, which is a primary amine made from a type of modified rosin. The amine is now in pilot plant production.

Typical analysis and characteristic physical properties of this modified rosin amine are as follows:

**TABLE I**

| *Physical State* | *Viscous Liquid* |
|---|---|
| Density at 25°C. | 0.997 |
| Refractive Index at 20°C. | 1.5410 |
| Nitrogen Content | 4.2-4.5% |
| Bromine Number (KBr-$KBrO_3$) | 49 |
| Viscosity at 25°C. | 4670 Centistokes |
| Boiling Range (5 mm.) | 187-211°C. |
| Boiling Point (760 mm.) .344°C. | (partial decomposition) |
| Flash Point (Cleveland Open Cup) | 192°C. |
| Heat of Vaporization | 20,100 calories per mole |
| Neutralization Equivalent | 317 |

Modified rosin amine is oil soluble and water insoluble. The acetate is water soluble.

Modified rosin amine acetate had a phenol coefficient of 130 and 180 when tested against *E. typhosa* and *S. aureus* respectively. The hydrochloride had phenol coefficients of 120 and 270 respectively when tested against the same organisms.

Significant is the fact that at 20°C., modified rosin amine acetate at a ratio of 1:3000 completely killed *E. typhosa* in ten minutes. In the case of phenol, a ratio of 1:80 is required.

When used in conjunction with pine oil, the phenol coefficient was materially increased.

The improvement in phenol coefficient is apparent. Of particular interest is the improvement in phenol coefficient of the pine oil against *S. aureus*.

Another property of modified rosin amine and many of its salts is high activity in the control of many fungi, such as alternaria and macrosporium.

Modified rosin amine is capable of conversion into quaternary compounds. These quaternaries are, however, of generally low water solubility and consequently of rather low phenol coefficient in comparison with quaternaries now on the market.

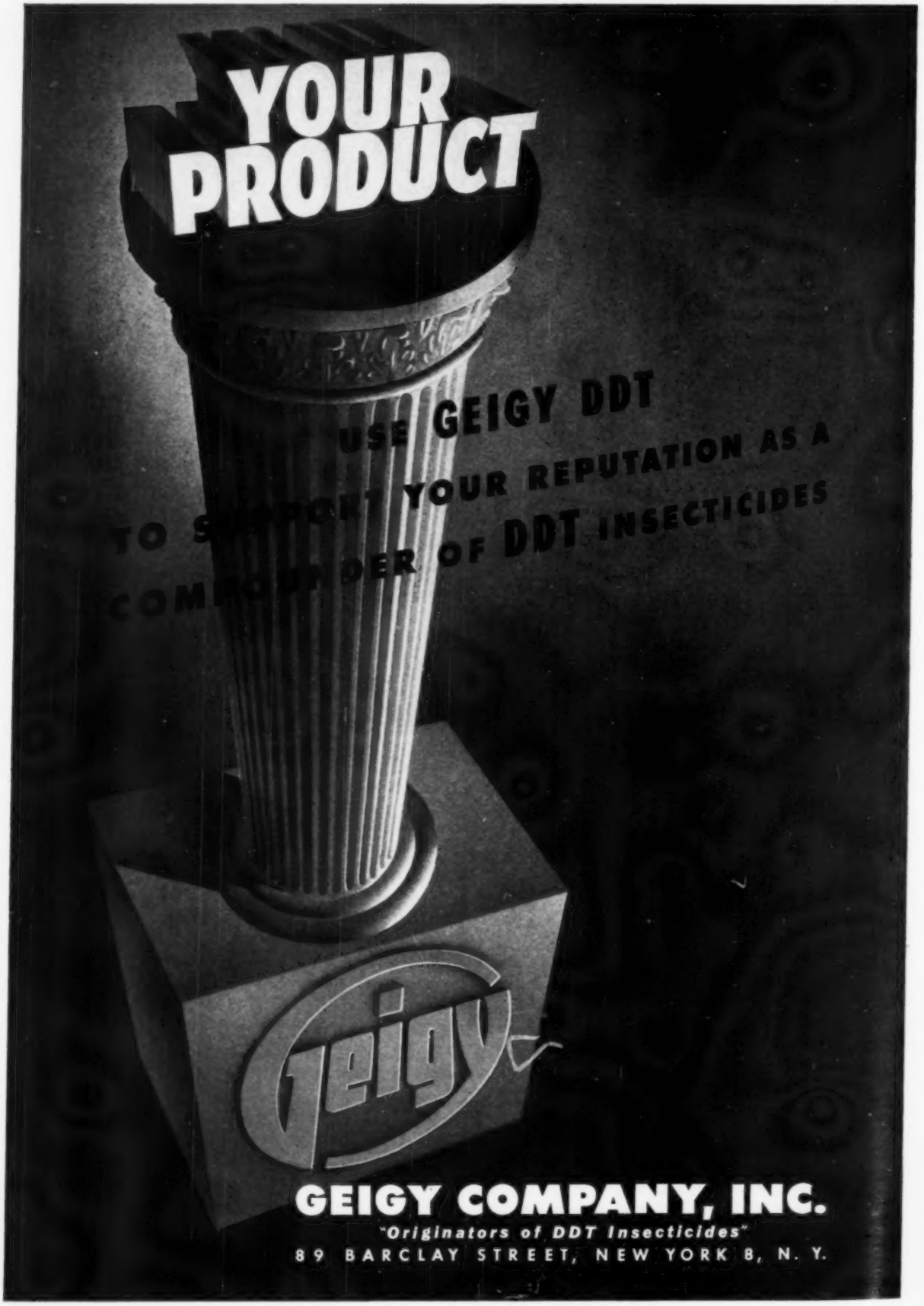
Modified rosin amine and its salts, (20) in high concentration, may be considered as primary skin irritants.

(*Turn to Page 167*)

**TABLE II**

| *Composition* | *Phenol Coefficient Based on Mixture—F.D.A. Method* *E. typhosa* | *S. aureus* |
|---|---|---|
| 84% RAD* + 16% Tween (G6486T) | 40.8 | 138 |
| 76% Pine Oil + 8% RAD* + 16% Tween (G6486T) | 12.2 | 12 |
| 76% Pine Oil + 8% RADA** + 16% Tween (G6486T) | 8.6 | 12 |
| 84% Pine Oil + 16% Tween (G6486T) | 5.0 | <1 |

* RAD—Modified rosin amine.
** RADA—Modified rosin amine acetate.


YOUR PRODUCT
USE GEIGY DDT
TO SUPPORT YOUR REPUTATION AS A
COMPOUNDER OF DDT INSECTICIDES
Geigy
GEIGY COMPANY, INC.
"Originators of DDT Insecticides"
89 BARCLAY STREET, NEW YORK 8, N. Y.

strong. Synthetic detergents have most desirable features for government methods of cleaning, but there is a need for better soil-removing properties. He further reported a need for water emulsion waxes that will resist easy removal with water, that will take and maintain a good polish when buffed, and provide sufficient anti-slip properties. He mentioned, however, that waxes with excessive anti-slip properties are often too tacky.

Five exterminators are kept busy on insect control problems in the District of Columbia, using red squill, ANTU, strychnine, phosphorus paste and 1080. Chloropicrin is used for outside work. For roach control, a 25 percent solution of DDT in xylene is painted over lavatories, closets and areas that are not too apparent to the eye. They treat only rooms known to be infested by insects. By using DDT treatment, the amount of necessary spraying has been cut down one-third during the past year. There has been a continuous problem with carpet beetles but effective control has now been achieved by use of a pyrethrum-DDT spray, and by subjecting furniture to a temperature of 150° for 18 hours in a specially built room.

### What the Distributor Expects

THE address given by Mitchell Rosenfeld, United Sanitary Chemical Co., Baltimore, on the subject of "What the Distributor Expects from the Manufacturer" may be summed up by stating twelve points mentioned by Mr. Rosenfeld that apply to the manufacturers' relationship with his distributors. According to Mr. Rosenfeld, the manufacturer should:

(1) endeavor to limit his selling to the more legitimate distributors.
(2) carry product liability insurance.
(3) standardize quality of the product.
(4) inform distributor when a change is made in any property (such as color or viscosity) of a product.
(5) send specification list and sample of the product to the distributor and endeavor to keep quality of bulk product the same as was indicated by the specification or sample.
(6) avoid setting up a direct consumer sales system in competition with the distributor. Neither should the manufacturer sell under the guise of a dummy company.
(7) inform the distributor of the weaknesses of a product and where the product is not applicable.
(8) aid in the establishment and control of a stable retail price.
(9) stimulate new product selling by the distributor by bonuses or other monetary arrangement.
(10) try to inform distributor of *all* the applications and market possibilities of a product.
(11) avoid the temptation of testing products through the medium of his distributors.
(12) offer some advice on present market and future trends in prices, changes, availability and scarcities.

### Businessmen Need Confidence

"FEAR of the future is one of the greatest deterrents to present-day business stability," said W. M. Dugdale, Van Sant, Dugdale & Co., Baltimore, speaking on the subject of "Looking Ahead at Selling." He stated that basically it should not be necessary to have great booms and depressions and the way to avoid business recessions is to maintain a stable demand and the *ability to pay* for products produced. When the future begins to look less promising, the business man should not pull in his horns. He should look toward creating and keeping up demand. A company's greatest asset is its market position, for it is a most difficult position to regain once it has slipped away. In building and keeping demand the business man must resort to some fundamentals of selling: (1) Keep the mind flexible to change and the product up to date. (2) Tell prospective buyers what they should know about the product and what you have to sell. (3) Make the prospect want the kind of product you are selling. (4) Make him *prefer* to buy from you. (5) Keep the customer satisfied with respect to shortages, and delivery dates. Mr. Dugdale concluded with the statement that he had observed the feeling among many individual business men that their own busines will be good during the coming year. He stated that when this opinion exists among the many individuals, the chances are that business in general is headed for a satisfactory year.

### Aid to Small Business

James Kelly, Director of Small Business, U. S. Department of Commerce, Washington, stated that the NAIDM represents at present about 80 percent of the "national product" in its particular field. In explaining "What the Department of Commerce is Doing for Small Business" he pointed out that every twenty-four hours about a thousand new businesses are started and nearly that many disappear. This is a great economic waste. He stated that 98 percent of all U. S. business has fewer than fifty employees. Small business men generally do not know enough about all the phases of business relations and management "know how," such as the use of capital, banking and finance, marketing, stocks, cost control, tax problems, etc. Big business has long since learned to use the facilities of the government and its specialists.

Mr. Kelly stated three main causes of small business failure: (1) mismanagement, (2) taxes, (3) losing competitive position in the face of big business. He went on to point out a number of ways in which the Department is helping small business. Fourteen points were recently presented on tax structure revision to aid small business in securing venture capital. Aid in selling to the government is available through lists of items each agency purchases. The lists include the names and addresses of agency purchasing agents. A contact assistance program is under way which will help to bring together small and large business with regard to sub-contracting. Mr. Kelly also mentioned that courses in small business management are now offered at the Universities of Texas, Michigan and Illinois.

### Slippery Walk-Way Hazards

A JOINT research program has been established by the National Safety Council and the Bureau of Standards for the reduction of walk-way hazards stated Percy A. Siegler, National Bureau of Standards, Department of Commerce, Washington, addressing the meeting on "Slipperiness of Walk-Way Surfaces." He said that the correlation between the

# Announcing Continental's New "Fingertip" Aerosol Container

**Special features of the low-pressure "Fingertip" container**

1. Low cost
2. Designed for high-speed automatic filling.
3. Easy, dependable action.
4. Light but sturdy.
5. Low shipping costs due to valve position under top of double seam.
6. Easy stacking for counter display.
7. Internal coatings to suit product.

**Here's the most** effective, practical and economical low-pressure aerosol container you've ever seen.

Designed like a flat-top beer can—it is called "Fingertip" because the key to its many advantages is its new, highly efficient fingertip valve.

Although the "Fingertip" container is light and low in cost, tests with insecticides show it delivers the same knock-down and killing properties as high-pressure aerosols.

See the panel at the left for its "7 features" and you'll understand why this new container is ideal for insecticides . . . how it can be readily used for many other products.

If interested, write our nearest Sales Office for a comprehensive booklet on low-pressure aerosols.

CONTINENTAL CAN COMPANY

100 East 42nd Street New York 17, N. Y.

coefficient of friction and the actual amount of slipperiness is not complete especially when a surface is wet. Furthermore, slipperiness is a function of both the floor surface and sole of the footwear. Mr. Siegler presented a diagram of and explained a "slipperiness tester" developed by the bureau, by which an anti-slip coefficient can be computed for a given set of conditions. The establishment of many minimum anti-slip coefficients has been set up by the bureau using this apparatus. Mr. Siegler showed slides offering comparison data on anti-slip characteristics of a number of flooring materials and waxes. Further studies were presented on waxes of the water emulsion type applied to asphalt tile surfaces at the Pentagon building, Washington. Conclusions of this investigation were that under wet conditions all surfaces are more hazardous, especially when waxed. Slippery conditions are more likely to exist if the anti-slip coefficient is less than 0.4.

### *The FTC in Your Business*

Following Mr. Siegler's presentation, a paper was read by Ira P. MacNair, MacNair-Dorland Co., New York, on the subject of "The Fallacy of Product Approval Lists." The final paper on the NAIDM program was delivered by NAIDM's general council, John D. Conner, who spoke on "The Federal Trade Commission in Your Business." Mr. Conner traced the history of laws against unfair monopolies and unfair methods of competition, and summarized the purpose and authority of the Commission, which is to assure free interplay of opposing economic forces on an equitable basis. He went on to explain a number of cases in the insecticide and aerosol field where the Commission has taken exception to claims. He also said that moth repellent producers have been involved in a number of proceedings before the Commission. "Non-slip" claims on the part of wax makers as well as claims made for antiseptics, disinfectants and germicides have likewise been questioned. He stressed that each claim, however, is weighed against the efficacy of the product in each case. Mr. Conner explained a number of points regarding the Commission's procedure and the different ways in which a case may arise. He outlined how the Commission goes about getting the information needed and something about the penalties involved for failure to comply with the Commission's requests.

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## Anchor Names Dallas

Ronald H. Dallas was recently appointed sales manager of Maywood Glass Co., Los Angeles, and the Pacific coast closure division of Anchor Hocking Glass Corp., Lancaster, Ohio. Mr. Dallas has had 24 years experience in glass container production and sales on the Pacific coast.

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## Sells Corrugated Plant

International Paper Co., New York, has acquired the corrugated (paper) plant and equipment of Owens-Illinois Glass Co. at E. 50th and S. Soto Sts., Vernon, Calif., it was announced jointly by both companies early this month. The new owners will continue the operation of the plant, the sale of which does not affect the Owens-Illinois glass container plant in Vernon.

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## CDCA Elects Pauley

Gerald F. Pauley, general branch manager, Monsanto Chemical Company's organic chemicals division sales office, Chicago, was elected 1948 president of the Chicago Drug and Chemical Association on November 20th. Mr. Pauley, who has been in charge of Monsanto's Chicago office for the past 13 years, is a resident of Wilmette, Ill., and a graduate of the University of Illinois. He has been associated with Monsanto since 1927, when he was employed as a chemist at the company's headquarters in St. Louis.

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## Pyrethrum to Cholera Area

Pyrethrum powder, given by the Kenya Pyrethrum Board, was flown to Egypt for use in the recent anti-cholera campaign, it was learned recently when a clipping from the *East African Standard* of Nairobi, showing a transport plane being loaded with pyrethrum, was received at Greene Trading Co., Kenya Pyrethrum Board's U. S. representative in New York. In addition to the Kenya Pyrethrum Board's gift, which was valued at about $2,500, 1,500 pounds of pyrethrum extract were sent to Egypt with the compliments of the Mitchell Cotts group of companies. The 1,500 pounds of extract could make 30,000 gallons of spray worth about $15,000.

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## Plate Test Criticized

The agar plate or cylinder plate method for testing effectiveness of cation-active antiseptics, although now an established technique, is unsuitable for testing antiseptic creams or solutions based on cation-active materials. Cation-active antiseptics of the class of quaternary ammonium salts (such as cetyl pyridinium chloride) gave very little zoning by the agar cylinder-plate method. Given as an explanation is the possibility that the ionic aggregates of the cetyl pyridinium ions are physically too large to pass through the agar network. M. A. Phillips, *Nature, 160,* 4054, P. 55, 1947.

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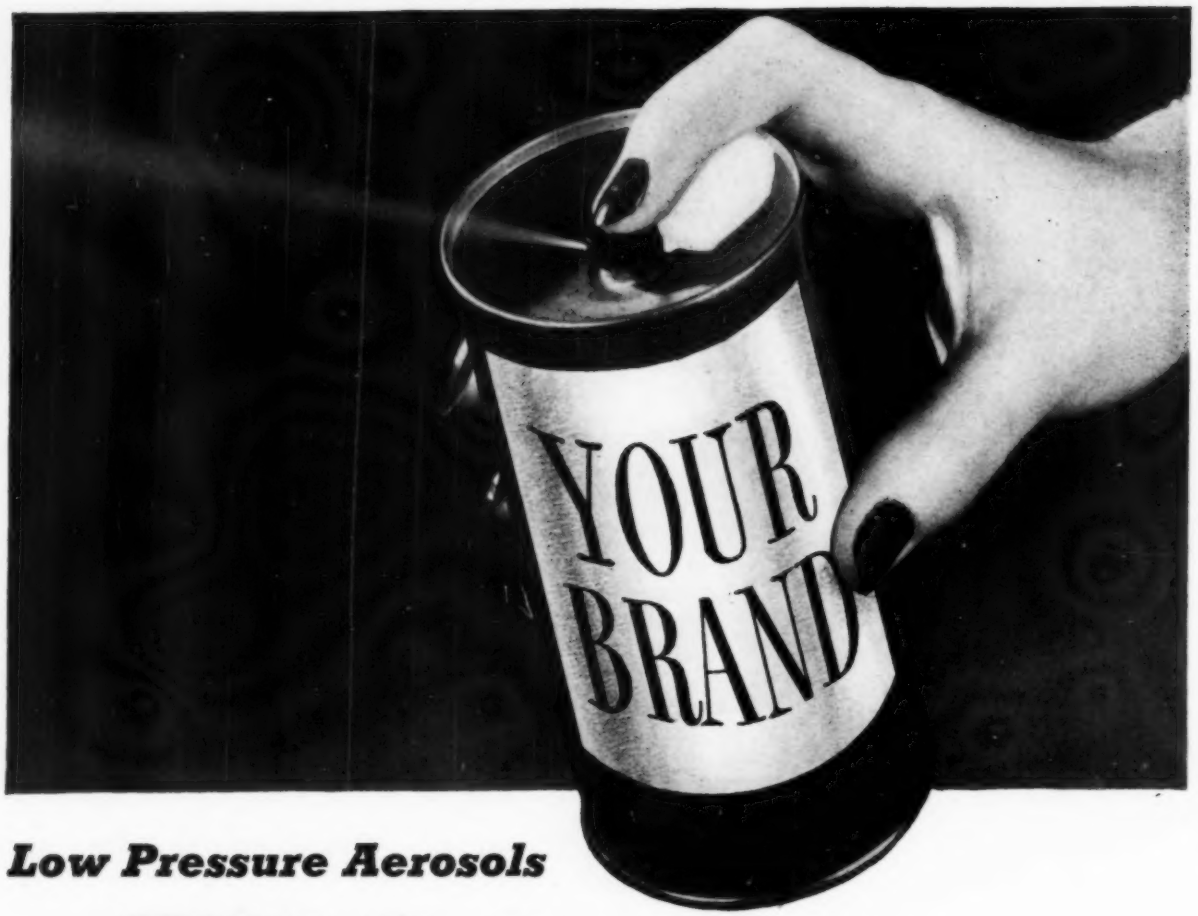
## Tall Oil Hits New High

Capacity for production of tall oil in the United States is expected to hit an all-time high in 1947 of 125,000 to 130,000 tons, according to officials of Union Bag and Paper Corp., New York, a large-volume producer of tall oil with a plant in Savannah, Ga.

—— ♦ ——

## Adopt New Citronella Spec

The second annual dinner meeting of the scientific section, Essential Oil Association, was held, Dec. 9th at the Hotel McAlpin, New York, with Ray C. Schlotterer, managing director, presiding. The group was addressed by Dr. Eric C. Kunz, Givaudan-Delawanna, Inc., New York and chairman of the scientific section, who traced the history of accomplishment of the section in achieving agreement among industry, government, and officials of the U. S. P. and N. F. on standards and specifications. A number of new specifications were adopted at the meeting, among which was Citronella Ceylon, which has been under much dispute during the past few years.

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# The Floor Wax Market

## a Statistical Survey

**By John R. Skeen**
Foster D. Snell, Inc.

IN search for a flexible finish drying with its own luster, the shoe industry is said to have originated the first commercial carnauba wax emulsion in 1925. The emulsion was probably stabilized with borax and soap. Numerous modifications followed rapidly. The basic idea was adapted to finishes for floors in 1930 with the advent of the first dry-bright emulsion polish.

At the time (1931), the established liquid and paste waxes had reached a five million dollar production figure, and it was believed that a significant portion of this market would be obtained by the new emulsions. Indeed, the advantages seemed to be so many and so attractive that the emulsions found ready acceptance and soon promised to extend existing markets. When this became apaprent, many new brands were readied for the market and the opportunity for expanded sales and profits seemed to be bright. However, many of these new products were rushed onto the market without benefit of more than casual testing, and it was inevitably discovered that emulsion polishes presented new and serious problems in package stability and batch uniformity. Something more than a formula was needed.

Sales were lost, production suffered and, in 1931-1932, brands were withdrawn and many producers adopted a "never again" attitude. A few persisted and developed products that fulfilled early promise by reason of sound research and attention to production detail. The almost disastrous customer reaction of the early years was overcome and, in 1935, the production value of emulsion polishes accounted for nearly 30 per cent of the total for wax floor finishes. This share continued to increase, mostly to supply extended markets, and became about 55 per cent in 1939.

Before the war, the natural waxes were fundamental in the formulation of all but the least expensive floor finishes. The vegetable waxes were dominant,—with carnauba most important, accounting for two-thirds of the imports of natural waxes during the period 1936-1939. The war stimulated the use of synthetics, especially in the liquids and pastes. With the emulsion type wax, however, carnauba wax maintained its old position as an essential of quality compositions.

In 1942, about 35 per cent of the carnauba imports into the United States were consumed in floor waxes and polishes; of the imports of ouricury, probably 15 per cent were so used; the use of beeswax in floor finishes perhaps did not exceed 4 per cent of the supply, while candelilla wax was a negligible factor in this industry. Because the liquids and pastes could readily incorporate the synthetics and paraffins and so extend the natural waxes, this branch of the industry suffered no serious shortage or production restraint during war years. Liberty of choice was much less for the preparation of the emulsions, however, and, in great part, production was limited by

(*Turn to Page* 165)

### Statistical Summary: Natural Waxes, Floor Waxes and Polishes

| | *Floor Waxes and Polishes*[1] *Production in million dollars* | | | *Imports of Natural Waxes: unit* 1000 *pounds*[2] | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | *Import Summary* | | | | *Imports by Kind* | | | | | *Consumption* (1000 *Lbs.*) | |
| *Year* | *Total* | *Floor Wax Liquid and Paste* | *Floor Polish Water Emulsion* | *Total* | *Vegetable sub-total* | *Animal*[3] *sub-total* | *Mineral*[4] *sub-total* | *Carnauba* | *Ouricury* | *Candelilla* | *Japan* | *Other Vegetable* | *Beeswax*[5] | *Year* |
| 1931 | 5.2 | 5.0 | 0.2 | 22685 | 10095 | 3680 | 8910 | 7447 | ..... | ..... | ..... | 2648 | ..... | 1931 |
| 1935 | 9.2 | 6.4 | 2.8 | 27108 | 15071 | 4419 | 7618 | 19421 | ..... | ..... | ..... | 4650 | ..... | 1935 |
| 1936 | 11.7 | ... | ... | 28417 | 18563 | 4269 | 5585 | 12500 | ..... | ..... | 3645 | 615 | ..... | 1936 |
| 1937 | 14.1 | 7.0 | 7.1 | 33096 | 21527 | 5415 | 6154 | 13916 | ..... | 2844 | 4157 | 610 | ..... | 1937 |
| 1938 | 8.9 | ... | .. | 24916 | 16612 | 3011 | 5293 | 12377 | ..... | 1411 | 2161 | 663 | ..... | 1938 |
| 1939 | 16.1 | 7.2 | 8.9 | 36274 | 24380 | 4715 | 7179 | 16359 | ..... | 3357 | 3645 | 1019 | ..... | 1939 |
| 1940 | 18.8 | 8.1 | 10.7 | 31742 | 26132 | 4827 | 783 | 16926 | ..... | 5644 | 2328 | 1234 | ..... | 1940 |
| 1941 | 23.2 | 9.7 | 13.5 | 42562 | 35650 | 6801 | 112 | 22167 | ..... | 7947 | 2471 | 3065 | 9200 | 1941 |
| 1942 | 23.9 | 9.8 | 14.1 | 29356 | 24036 | 5307 | 13 | 14214 | 864 | 7746 | ..... | 1213 | 8600 | 1942 |
| 1943 | 24.5 | 11.4 | 13.1 | 36411 | 31986 | 4413 | 12 | 18307 | 2798 | 10880 | ..... | 1 | 8200 | 1943 |
| 1944 | 20.6 | 10.0 | 10.6 | 31266 | 27025 | 4241 | 0 | 17510 | 2654 | 6711 | ..... | 150 | 8200 | 1944 |
| 1945 | 22.9 | 9.9 | 13.0 | 34669 | 27119 | 7550 | 0 | 14747 | 2454 | 9606 | ..... | 311 | 11900 | 1945 |
| 1946 | 27.6 | 10.5 | 17.1 | 36515 | 28812 | 6655 | 1048 | 17709 | 3540 | 7094 | ..... | 470 | 10800 | 1946 |

[1] *Census of Manufacturers* for the years 1931, 1935, 1937, 1939; other values derived and unofficial.
[2] *U. S. Foreign Commerce & Navigation.*
[3] 99% Beeswax.
[4] Practically all Montan Wax.
[5] U. S. Department of Agriculture.

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# QUATERNARIES vs. PHENOLICS

## *The Germicidal Effectiveness of Some Quaternary and Phenolic Compounds Reported Together with Time-Survival Numbers of E. typhosa and S. aureus.*

**Part II**

**By Gladys Eckfeldt and L. H. James**
James Laboratories, Chicago

IN part one of his paper, Dr. James pointed out that, to date, there is no completely satisfactory method for eliminating, in the medication tube, the bacteriostatic effects of low concentrations of quaternary ammonium compounds. The influence of these effects on test results can be understood best if we know the minimum dilution of the quaternary germicides that will be neutralized by the subculturing medium. These minimum dilutions were worked out for five quaternaries and a phenolic germicide against S. *aureus* and *E. typhosa*. The influence of "holding" upon the reaction between the quaternaries and culture medium was studied, as was also the influence of sodium oleate soap on the growth of S. *aureus* and on bacteriostasis by the quaternaries.

With this background of data, an "oleate-ager" method was developed and results of tests with this method, determining survival numbers of bacteria exposed to quaternaries and phenolics, were presented. Part two of the paper presents further studies of the method.

THE influence of blood serum upon the total numbers surviving exposure to a quaternary, a cresylic disinfectant and phenol, are shown in Tables 8 and 9. With quaternary C, the dilution producing a "complete" kill of *E. typhosa* in 10 minutes is approximately 1-1,000; for the cresylic compound, 1-450; and phenol, 1-90. The increase in surviving numbers is rapid with all compounds, indicating that the serum has acted to protect that large percentage of cells which are ordinarily killed by the quaternaries in high dilutions.

Against S. *aureus* the 10-minute "killing dilution" may be a little higher, approximately 1-2,500 for quaternary C. That of both the cresylic compound and phenol dropped to 1-50.

Information on the rate at which the bacterial numbers are decreased by quaternaries was obtained by making agar plate counts on comparable medication tube mixtures after

**TABLE 8**
**Numbers of *E. typhosa* surviving 10 minutes exposure to one quaternary and one cresylic disinfectant and phenol in the presence of 10% blood serum at 20° C.**

| *Quaternary C First test* | | *Quaternary C Second test* | *Cresylic* | | *Phenol* | |
|---|---|---|---|---|---|---|
| *Dilution* | *No. bacteria surviving* | *No. bacteria surviving* | *Dilution* | *No. bacteria surviving* | *Dilution* | *No. bacteria surviving* |
| 1-500 | | 0 | 1-400 | 0 | 1-60 | 0 |
| 1-750 | | 0 | 1-450 | 0 | 1-70 | 0 |
| 1-1,000 | 51 | 0 | 1-500 | 28 | 1-80 | 0 |
| 1-2,500 | 5,670 | 1,009,000 | 1-600 | 3,968,000 | 1-90 | 0 |
| 1-5,000 | 1,280,000 | Innumerable | 1-700 | Innumerable | 1-100 | 2,870 |
| 1-7,500 | Innumerable | Innumerable | 1-800 | Innumerable | | |
| 1-10,000 | Innumerable | Innumerable | | | | |

**TABLE 9**
**Numbers of *S. aureus* surviving 10 minutes exposure to one quaternary and one cresylic disinfectant and phenol in the presence of 10% blood serum at 20° C.**

| *Quaternary C First test* | | *Quaternary C Second test* | *Cresylic* | | *Phenol* | |
|---|---|---|---|---|---|---|
| *Dilution* | *No. bacteria surviving* | *No. bacteria surviving* | *Dilution* | *No. bacteria surviving* | *Dilution* | *No. bacteria surviving* |
| 1-500 | | 0 | 1-25 | 0 | 1-30 | 0 |
| 1-750 | | 0 | 1-50 | 0 | 1-40 | 0 |
| 1-1,000 | 0 | 0 | 1-100 | 15,000 | 1-50 | 0 |
| 1-2,500 | 0 | (3) | 1-150 | 602,000 | 1-60 | 1,020 |
| 1-5,000 | 1,700 | 0 | 1-200 | 4,675,000 | 1-70 | 420,000 |
| 1-7,500 | 86,500 | 3, 100 | 1-250 | 11,500,000 | | |
| 1-10,000 | Innumerable | 625,000 | 1-300 | 17,800,000 | | |
| 1-12,500 | Innumerable | | | | | |

* Presented at the Disinfectant Symposium, Natl. Assn. Insecticide & Disinfectant Mfrs., Chicago, June 9, 1947.

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exposures of ¼, ½, 1, 2, 5, 10, 20, and 30 minutes. A separate medication tube mixture was examined after each of the exposures. Each medication tube had been prepared similarly and inoculated from the same culture pool. At the end of the exposure, the soap solution was poured into the medication tube, the tube walls and bottom swabbed, and dilutions plated in agar. The data presented in Table 10 shows the rapid rate at which *E. typhosa* is killed by quaternary C. Tables 11 and 12 show the rate of decrease in numbers by a cresylic disinfectant and phenol. Tables 13, 14, and 15 show respectively the same information on *S. aureus*.

The great speed of the reaction between the bacterial cells and the quaternary is evident after only one-quarter minute exposure in all dilutions (Table 10). The comparatively small numbers of cells surviving at even the 1-15,000 dilution shows a great destruction within the shortest time tested. For *S. aureus* the rate of death is slower (Table 13) and quite regular. The survival of small numbers in the 1-12,500 and 1-15,000 dilutions from the five-minute through the 30-minute exposure periods is significant and characteristic. After 10 minutes exposure, the "killing dilution" appears to be in the neighborhood of 1-7,500, which closely coincides with tests by other methods. The loss of killing power in the cresylic disinfectant by small dilution is striking.

SEVERAL observations made during this study have turned our attention to the phenomenon of glass adsorption. Removal of the quaternary by adsorption from the stock solution, and from the mixture in the medication tube, has been recognized by most investigators. While observing agar plates containing living bacteria, and a quaternary not completely neutralized, bacterial colonies were noted on the sides at the edges of the agar. A little experimentation revealed that even in agar petri plates the quaternary is being removed from the agar gel, and adsorbed onto the glass. This is well illustrated in Figure 1, which shows abundant colony formation in nutrient agar spread over the glass in an extremely thin layer, with relative-

**TABLE 10**
**Decrease in numbers of *E. typhosa* in varying dilutions of quaternary C at 20° C.**

| *Time of exposure* | *Numbers of bacteria surviving* | | | | |
|---|---|---|---|---|---|
| | 1-5,000 | 1-7,500 | 1-10,000 | 1-12,500 | 1-15,000 |
| ¼ min. | 105 | 277,400 | 4,275 | 49,700 | 55,200 |
| ½ min. | (1)* | 33 | 600 | 780 | 2,250 |
| 1 min | (1) | 0 | 375 | 156 | 2,390 |
| 2 min. | 0 | (3) | 374 | 71 | 270 |
| 5 min. | 0 | 49 | 10 | 10,580 | 0 |
| 10 min. | 0 | 0 | 325 | 0 | 0 |
| 20 min. | 0 | 0 | 0 | (1) | 0 |
| 30 min. | 0 | 0 | (1) | (2) | (1) |

*Number of colonies on 1 ml plate.

**TABLE 11**
**Decrease in numbers of *E. typhosa* in varying dilutions of cresylic disinfectant**

| *Time of exposure* | *Numbers of bacteria surviving* | | |
|---|---|---|---|
| | 1-250 | 1-500 | 1-750 |
| ¼ min. | 716,000 | 32,460,000 | 154,360,000 |
| ½ min. | (1) | 700,700 | 140,700,000 |
| 1 min. | (1) | 29,460 | 74,900,000 |
| 2 min. | 0 | 71 | 16,800,000 |
| 5 min. | 0 | 0 | 615,000 |
| 10 min. | 0 | 0 | 17,700 |
| 20 min. | 0 | 0 | 34 |
| 30 min. | 0 | 0 | 0 |

**TABLE 12**
**Decrease in numbers of *E. typhosa* in varying dilutions of phenol**

| *Time of exposure* | *Numbers of bacteria surviving* | | |
|---|---|---|---|
| | 1-80 | 1-90 | 1-100 |
| ¼ min. | 101,000 | 1,398,000 | 4,747,000 |
| ½ min. | 2,020 | 364,000 | 4,890,000 |
| 1 min. | 0 | 98,900 | 2,419,000 |
| 2 min. | 0 | 1,800 | 2,103,000 |
| 5 min. | 0 | 0 | 18,860 |
| 10 min. | 0 | 0 | (2) |
| 20 min. | 0 | 0 | 0 |
| 30 min. | 0 | 0 | 0 |

**TABLE 13**
**Decrease in numbers of *S. aureus* in varying dilutions of quaternary C at 20° C.**

| *Time of exposure* | *Numbers of bacteria surviving* | | | | |
|---|---|---|---|---|---|
| | 1-5,000 | 1-7,500 | 1-10,000 | 1-12,500 | 1-15,000 |
| ¼ min. | 285,000 | 2,300,000 | 4,650,000 | 3,600,000 | 8,252,000 |
| ½ min. | 57,900 | 522,000 | 817,500 | 1,235,000 | 1,275,000 |
| 1 min. | 570 | 58,700 | 58,500 | 262,000 | 259,000 |
| 2 min. | 0 | 18,800 | 28,500 | 5,800 | 31,000 |
| 5 min. | 0 | 0 | 695 | 710 | 614 |
| 10 min. | 0 | 0 | (1) | 284 | 1,840 |
| 20 min. | 0 | 0 | 0 | 213 | 136 |
| 30 min. | 0 | 0 | (1) | 142 | 477 |

**TABLE 14**
**Decrease in numbers of *S. aureus* in varying dilutions of cresylic disinfectant at 20° C.**

| *Time of exposure* | *Numbers of bacteria surviving* | | |
|---|---|---|---|
| | 1-100 | 1-250 | 1-500 |
| ¼ min. | 42,100 | 4,700,000 | 58,630,000 |
| ½ min. | 1,280 | 5,150,000 | 58,600,000 |
| 1 min. | 99 | 2,725,000 | 17,446,000 |
| 2 min. | 0 | 808,000 | 11,154,000 |
| 5 min. | 0 | 124,000 | 6,106,000 |
| 10 min. | 0 | 15,900 | 2,273,000 |
| 20 min. | 0 | 693 | 1,524,000 |
| 30 min. | 0 | 0 | 719,300 |

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ly no growth in the thicker agar layer, even though it was similarly inoculated and incubated. After incubation, the thicker layer of agar would not support growth of S. *aureus* streaked over the surface.

Early in this investigation, before the full importance of the glass adsorption was appreciated, agar petri plates prepared from medication tubes containing relatively high concentrations of quaternaries, showed "clumps" of colonies (from 25-200 or more colonies in a cluster). Various precautions were taken, without success, to avoid the formation of these clumps, which had been considered to be lumps of agar solidified prior to pouring into the petri plate.

After learning that the glass of the plates will adsorb quaternary from the agar, it was soon demonstrated that raised areas in the bottom of the dishes, resulting in thinner sections of the agar, produced the same clusters of colonies, when the concentrations of the disinfectant and the thickness of the agar layer were kept within narrow limits.

Although the phenomenon of adsorption of living bacteria onto a glass strip, as described by Klarmann and Wright (loc cit), presumably could be repeated at will, now the question was raised as to whether theirs was the proper interpretation to be placed upon the results. Using a concentration of quaternary C which we knew produced stasis, petri plates were poured to different depths with F.D.A. agar containing S. *aureus* 209. Before solidification of the agar, a clean sterile glass strip was immersed into the agar, and the agar immediately hardened. After incubation the plates showed practically no growth except above, adjacent to, and beneath the glass strip. This is shown in Figure 2.

These results are explained as due to the adsorption of sufficient of the quaternary from the agar in close proximity to the glass to permit bacterial development. It was further shown by spreading the usual 10 ml of agar over a large glass surface inside a sterile glass jar. Quaternary C was added to F.D.A. agar to give a final dilution of 1-400,000, which is strongly bacteriostatic. The agar was inoculated with S. *aureus*, and 10 ml

**TABLE 15**

**Decrease in numbers of S. aureus in varying dilutions of phenol at 20° C.**

| *Time of exposure* | *Numbers of bacteria surviving* | | |
|---|---|---|---|
| | 1-50 | 1-60 | 1-70 |
| ¼ min. | 770,000 | 6,590,000 | 5,034,000 |
| ½ min. | 200,000 | 3,040,000 | 10,185,000 |
| 1 min. | 9,300 | 768,390 | 1,250,000 |
| 2 min. | (1) | 34,180 | 2,280,000 |
| 5 min. | 0 | (2) | 398,600 |
| 10 min. | (4) | (1) | 22,100 |
| 20 min. | 0 | 0 | (2) |
| 30 min. | 0 | 0 | (1) |

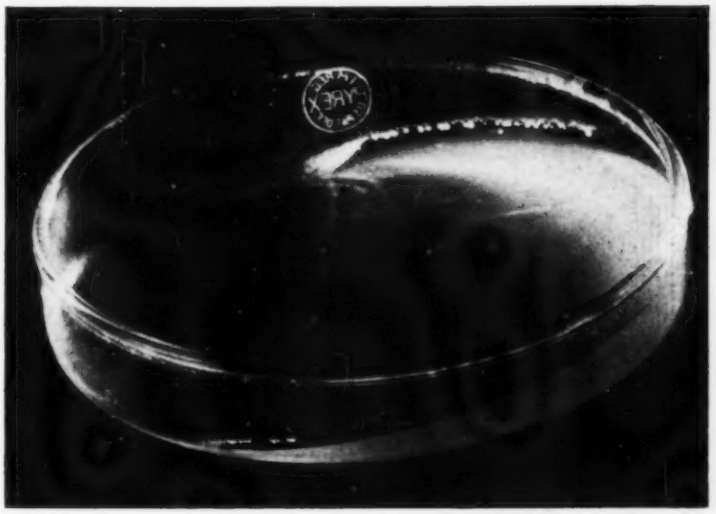
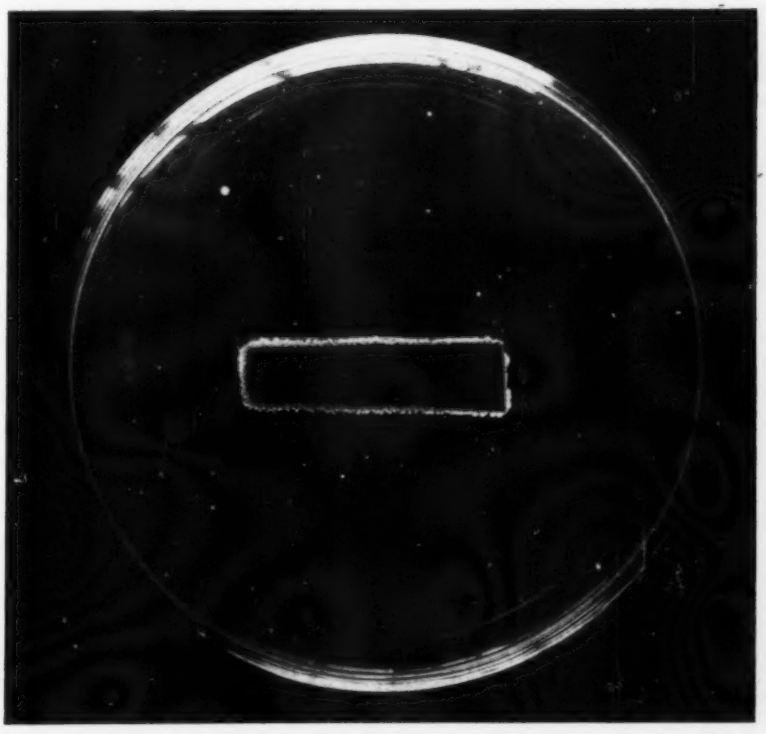


Figure 1: Note abundance of colonies where agar layer is thin.

Figure 2: Note colony growth concentrated around glass strip.



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pipetted into sterile, warmed glass quart jars. With constant rotation, the agar solidified in a thin layer on the inner walls of the jars. The jars were incubated at 37° C. A great many colonies developed, uniformly distributed throughout the agar. Other portions of the same agar poured into petri plates in thick layers showed no colony development.

THROUGHOUT this investigation, agar plates containing an inhibitory concentration of a quaternary frequently have shown a few colonies of staphylococci, characteristically pigmented, deep within the agar. Within the thicker layers of agar in petri plates, also in the plates containing glass strips, and often in plates prepared for a test of the killing action of a disinfectant, petri plates representing a relatively low dilution of the test culture; e.g., 1 ml of the medication tube mixture, showed a few well-developed colonies.

It was surmised that these colonies represent not only the small percentage of cells that survive the disinfectant exposure, but also a type of cell able to grow in the presence of concentrations of disinfectant normally bacteriostatic. These cells would contribute materially to the irregular results often reported for loop transfer tests of the quaternaries.

Therefore, simultaneously with other tests of the quaternaries, several plates of agar containing a concentration of quaternary known to be bacteriostatic were daily inoculated with S. *aureus*, incubated, and the number of colonies recorded. The agar layer was made thick enough to ensure bacteriostasis against all except the resistant types.

The numbers of colonies appearing varied on different days, although the plates had all been inoculated from the daily pool of four 24-hour tubes. The results of three typical sets of counts are shown in Table 16. Each plate was inoculated with 0.1 ml from the undiluted culture pool.

The presence of small numbers of resistant cells is indicated in most of the tests reported above, which is brought out especially in the agar plate sub-cultures. The numbers are small, but their importance in loop transfer tests is obvious, since 50 per 0.1 ml of culture at best would equal two to three per loopful transferred from the medication tube. Throughout the period when these agar determinations of resistant cells were being made, the resistance of the cultures to phenol, as measured by the F.D.A. loop transfer method, remained nearly constant. Much valuable information on the nature of the resistance of S. *aureus* to disinfectants, and on the reasons for variations in culture resistance, may be available by a study of these resistant forms.

**TABLE 16**

**Growth of S. aureus in agar containing quaternary C at 1-400,000 dilution. Replicate plates, each inoculated with 0.1 ml of culture.**

| *Number of colonies per plate* | | |
|---|---|---|
| *First series* | *Second series* | *Third series* |
| 36 | 5 | 36 |
| 57 | 2 | 4 |
| 32 | 5 | 10 |
| 49 | 2 | 7 |
| 45 | 3 | 5 |

## Summary


ALL methods now in use for the determination of the killing power of a disinfectant are predicated upon the growth of surviving organisms in the sub-culture medium. Inhibition of growth by the "carry-over" of disinfectant will prevent a reliable result. Quaternary ammonium compounds are especially prone to cause inhibition or "bacteriostasis" in the sub-culture medium, and the above tests showed that these compounds must be diluted to approximately 1-1,000,000 before uninhibited growth can be expected of S. *aureus*, and approximately 1-100,000 for *E. typhosa*. When sub-cultured in an agar medium, the necessary dilution may be slightly less.

Sodium oleate was selected as a neutralizing agent for use at the end of the exposure period for several reasons; e.g., it aided in removal of unkilled bacterial cells which had adhered to the glass walls; it immediately neutralized most of the germicidal action; it did not prevent growth of the unkilled bacteria in the sub-culture medium, and did not interfere with the reading of results. The amount of sodium oleate used was standardized at 10 times the amount of disinfectant.

A procedure (oleate-agar method) was designed and used in which the soap solution was added to the medication tube, the glass walls swabbed, and the mixture sub-cultured in nutrient agar. This showed the number of bacteria surviving in the entire medication tube.

Those dilutions of five quaternary ammonium disinfectants, phenol, and a cresylic disinfectant that produced a complete kill of *E. typhosa* within a 10-minute exposure are as follows: (Dilutions are of active ingredients) A—1-5,000; B—1-2,500; C—1-7,500; D—1-5,000; E—1-12,500; phenol—1-90; cresylic—1-700. The organism S. *aureus* is more difficult to kill, and the following results were obtained A—1-1,000; B—1-5,000; C—1-7,500; D—1-12,500; E—1-5,000; phenol—1-60; cresylic—1-150.

Blood serum (10%) was used to test the effects of organic matter on the germicidal action of one quaternary and one cresylic compound and phenol. Against *E. typhosa* for 10 minutes, the following dilutions produced a complete kill: quaternary C—1-1,000; cresylic—1-450; phenol—1-90. Against S. *aureus* in the presence of serum, the results were: quaternary C—1-2,500; cresylic—1-50; phenol—1-50.

Using the method developed above, it was possible to carry out tests of the disinfectants over very short periods of exposure. Determinations were made of the numbers of bacterial cells surviving after exposures of from ¼ minute to 30 minutes. This showed the rate at which the test culture was killed at varying dilutions. Using quaternary compound C against *E. typhosa*, all the cells were killed at 1-5,000 in two minutes; at 1-7,500 in 10 minutes; at 1-10,000 in 20 minutes; at 1-12,500 in 10 minutes; and at 1-15,000 in five minutes. (At the 1-10,000, 1-12,500, and 1-15,000 dilutions after 20 and 30 minutes, one or two bacterial colonies appeared on the plates, the significance of which has not been determined.) Using the

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cresylic disinfectant, all the cells were killed at 1-250 in two minutes; at 1-500 in five minutes; and at 1-750 in 30 minutes. Using phenol, all cells were killed at 1-80 in one minute; at 1-90 in five minutes; and at 1-100 in 20 minutes.

With the quaternary compound C against S. *aureus*, all cells were killed at 1-5,000 in two minutes; at 1-7,500 in five minutes; at 1-10,000 in 20 minutes. With the cresylic disinfectant, all cells of this culture were killed at 1-100 in two minutes; and at 1-250 in 30 minutes, whereas with phenol complete killing occurred at 1-50 in five minutes; and 1-60 in 20 minutes.

Quaternary ammonium compound C has been found almost completely inhibitory to S. *aureus* at a dilution of 1-400,000 in agar petri plates. A small number of colonies frequently appeared at this concentration, the colonies being large and pigmented when a large inoculum was used directly from an active culture. Repeated tests showed that under such conditions, usually between 5 and 50 colonies appeared per plate. These are considered to be cells (or a strain) especially resistant to the inhibitory action, and to represent the residual cells which are difficult to kill in the usual type of test of a disinfectant.

Furthermore, it was shown that a quaternary ammonium compound in nutrient agar may be absorbed onto the glass of the petri plate, markedly influencing the results. Immersion of a sterile glass strip into the inoculated agar (before it hardens) which contains quaternary ammonium compound C 1-400,000, results in abundant growth around the glass strip.

***References***


A. S. DuBois, *Soap & Sanitary Chemicals*, 23, May 1947, 139.

E. G. Klarmann and E. S. Wright, *Soap & Sanitary Chemicals*, Jan. 1946, p. 125.

R. Pressman and J. C. Rhodes, *Soap & Sanitary Chemicals*, Apr. 1946, p. 139.

E. I. Valko and A. S. DuBois, *J. Bact.* 47, 1944, 15.


## PRACTICAL ASPECTS

(*From Page* 133)

germicides are packed in steel or iron drums they quickly cause rust formation and the product becomes unsightly in a very short time. One day's exposure to the inside of an iron or steel drum is sufficient time to cause the material to become turbid and cloudy, making it unsuitable for repackaging in glass containers.

Neither tin nor terneplate has proven satisfactory for packaging quaternaries because here again the wetting action is sufficient to promote rapid oxidation of any exposed metal part. The oxidation is in some cases so rapid that the container may show leakage in a very short time. Apparently stainless steel drums (as yet unobtainable commercially) are suitable for packing and shipping quaternaries. Also special lined drums have been found suitable, although when the lining becomes cracked or chipped, difficulty is again encountered with turbidity from rust formation.

Most manufacturers to date have reconciled themselves to shipping quaternary ammonium compounds in either large glass carboys for bulk shipment or in smaller glass containers for consumer use. The highly concentrated liquid quaternary solutions can be shipped in lined drums and then diluted with water in glass lined tanks in the repackager's plant and run off into bottles for sale to the consumer. For absolute brilliant clarity of the finished product, it is advisable to run the material through a filter press just prior to bottling.

In spite of difficulties connected with the testing of these products, and idiosyncrasies in their reaction with soaps and certain other compounds, the use of quaternaries for sanitizing purposes is on the increase. Usefulness of quaternary ammonium compounds for sanitizing purposes cannot be over-emphasized. Wide application of such sanitizing agents will contribute greatly toward raising public health standards in this country.

## FLOOR WAX MARKET

(*From Page* 155)

the amount of carnauba wax that was available after military needs were satisfied. These needs were for a variety of protective coatings for war material and the quantity so consumed appears to be highly uncertain.

During the period 1942-1945, the estimate is made that the production of emulsion waxes amounted to about 55 per cent of the dollar value of the industry, approximately 23 million dollars annually. This compares with the total annual value of production for the industry in the years 1936-1939 of about 13 million dollars. One need only glance at the record of wax imports to realize that the dollar value of the floor finishes reflects price increases in the war years to a greater extent than it does an increase in physical volume. It is unreasonable, therefore, to expect the high level of product value estimated for 1946 to be maintained indefinitely, although it is expected that emulsion floor waxes will retain the dominant share of the market.

The bureau of the Census has just completed a new questionaire to be sent to makers of floor wax finishes of all kinds. Many conferences have been held to insure, as far as possible, complete coverage and to obtain the maximum of information for tabulation. The results will be made available in 1948. This will be the first comprehensive survey made of this industry, and the first dependable information since 1939. The table presented here may be a helpful interim guide; it represents a faithful report of "informed" opinion as well as the available statistics; but in no sense are estimations to be regarded as official, nor are they necessarily accurate. In this field, few will hazard even a guess with respect to dollar value, tonnage or per cent of the total stocks of a particular raw material going into the production of any one type of item.

—— • ——

An insecticidal concentrate is provided in the form of a solubilized oil dispersion of water and kerosene. The concentrate contains in solution in the oil phase, a high proportion of a naturally occurring organic insecticide such as pyrethrins, rotenone, or nicotine, and also a high proportion of a soap in the water phase, and a complex-forming ingredient in the oil phase. Stafford Allen & Sons Ltd., T. F. West, H. Hurst, and J. H. Schulman, British Patent No. 569,429.

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## WHITE SHOE DRESSINGS

(*From Page 94*)

watch progress in chemical developments will undoubtedly find new materials adaptable to making superior products with wider sales appeal.

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## NAVAL STORES

(*From Page 149*)

In one to two per cent concentrations, and with normal habits of cleanliness, these products can be kept in contact with the skin for several hours, or for a normal working day, without producing irritation. In concentrations of 0.1 per cent to approximately 0.5 per cent there is no evidence to show that these products act as primary irritants even on prolonged exposure (five days) to the skin.

Studies show definitely that these products in the normal concentrations used for disinfectant purposes are not primary irritants nor are they sensitizers.

Acute oral toxicity studies show that a 1 per cent solution of modified rosin amine acetate solution in distilled water may be fed to white rats at the rate of 70 c.c. per kilogram of weight, without producing toxic effects. This translated into human body weight would be roughly 70 c.c. per kilogram times the weight of the average man, which is approximately 70 kilograms or a total of 4,900 c.c. or roughly five quarts of this solution in one dose.

Details of patch test results are given in Table III. As indicated these tests were made on one hundred males and one hundred females.

In conclusion, certain naval stores chemicals have been demonstrated to be effective germicides. Pine oil is used extensively with effective results in control of bacteria concerned with communicable diseases. Addition of other active chemicals will raise the phenol coefficient against *S. aureus* and other resistant bacteria. Soaps of rosin and modified rosins (hydrogenated and dehydrogenated (disproportioned) have been reported to be more effective germicides than fatty acid soaps.

A new chemical, modified rosin amine and its acetate, have been shown to be effective in the control of *E. typhosa* and *S. aureus*. When used in conjunction with pine oil, either the free amine or its acetate will materially increase the phenol coefficient of the pine oil even against *S. aureus*. Toxicological studies on the modified rosin amine and its salts indicate that they are not primary skin irritants nor skin sensitizers under normal conditions of use as disinfectants.

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### TABLE III

**Patch Tests With Rosin Amine and Salts**

| *Substance* | *per cent Negative Reactions* 100 *Males* 1st *Application* | 100 *Males* 2nd *Application* | 100 *Females* 1st *Application* | 100 *Females* 2nd *Application* |
|---|---|---|---|---|
| 1% Solu. Rosin Amine Acetate.... | 68% | 73% | 38% | 41% |
| 0.1% Solu. Rosin Amine Acetate.. | 100 | 100 | 100 | 100 |
| 2% Solu. Rosin Amine in Mineral Oil | 35 | 35 | 31 | 35 |
| 2% Solu. Rosin Amine Stearate in Mineral Oil | 76 | 79 | 83 | 90 |
| 1% Emulsion 68 pts. Pine Oil, 16 pts. Rosin Amine, 16 pts. Tween | 100 | 100 | 100 | 100 |
| 1% Emulsion 68 pts. Pine Oil, 16 pts. Rosin Amine Acetate, 16 pts. Tween | 100 | 100 | 100 | 100 |

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# TECHNICAL Briefs

*From Current Literature in the Sanitary Products Field*

### Bactericide and Fungicide

Compounds with both bacteriostatic and fungistatic properties are prepared by the reaction of phenyl mercury salts, such as phenyl mercury acetate, with triethanolamine or bis (hydroxy methyl) urea. These preparations are used for the treatment of textiles, paper, leather, rubber, and other such materials, and may also be used with paints, lacquers, and cosmetics. They are nonirritating to the skin and cannot be readily removed by washing. F. J. Sowa, U. S. Patent No. 2,423,121.

◆

### Insecticide for Dog Lice

A disulfur and a monosulfur derivative of hexachlorocyclohexane are useful insecticides against dog lice. Practically 100 per cent of lice were dead after 8 hours' contact. Lethal doses of a monosulfur derivative for rabbits, sheep, and baby chicks are respectively: 5, 5, and 7 grams per kilogram of body weight. M. J. Guilhon, Compt. rend acad. agr. France 23, 101-3 (1947); through *Chem. Abs.*

◆

### Insecticidal Textiles

Acetate rayon textile fibers are rendered insect-repellent by incorporating into the fiber an organic contact insecticide such as hexachlorocyclohexane, rotenone, and pyrethrins. The insecticides are used alone or in combination with dimethyl phthalate. They are preferentially adsorbed and retained on washing. They may be incorporated in the fiber by addition to the fiber-spinning solution or by the more common methods of impregnation. The usual concentration of application is 0.5-5 per cent, and 5-10 per cent when used in conjunction with dimethyl phthalate. H. Dreyfus and C. G. Bonard, to Celanese House. British Patent No. 586,505.

◆

### Counting Aerosol Particles

The construction and operation of a photoelectronic counter is such as to utilize the flashes of light scattered by colloidal particles traversing a small space under brilliant dark-field illumination. The device was tested with uniform dioctyl phthalate aerosols of diameter down to 0.6 micron, and with aerosols of ellipsoidal spores of *Bacillus globigii* averaging about 0.8 x 1.2 micron per particle.

The practical range of the counter, without a scaling circuit, is 3-1200 counts per minute. Tests can be made with a sensitivity of $10^{-8}$ per cent, using concentrated aerosols of dioctyl phthalate which may contain up to 10 billion particles per liter.

The principle of the apparatus should have wide application in colloidal chemistry, bacteriology, biology, and industry. F. T. Gucker, Jr., C. T. O'Konski, H. B. Pickard, and J. N. Pitts, Jr., *J. Am. Chem. Soc.* 69, 2422-31 (1947).

◆

### Agent for Athlete's Foot

Iodine in a mixture containing magnesium oxide and a photosensitive catalyst such as chlorophyll is effective in the treatment of fungicidal diseases such as ringworm or athlete's foot. Red blood cells in normal salt solution are incorporated in the mixture to supply iron and oxygen. The mixture is dried under ultraviolet light and the dried material is dispersed in cottonseed oil. Before application the affected areas are treated with 3 per cent acetic acid and then warmed. A. Strickler, to The Hersch-Razel Research Foundation. U. S. Patent No. 2,425,285.

◆

### Germicide and Fungicide

A water-soluble compound having both germicidal and fungicidal properties is produced by the reaction of phenyl mercuric acetate and triethanolamine. F. J. Sowa, U. S. Patent No. 2,423,262.

◆

### Emulsifiers for Phthalate

Of about 125 organic emulsifiers, the following six were considered to be satisfactory for use with dimethyl phthalate in that they were miscible with it cold under varied conditions: Polymerized glycol monooleate, polymerized glycol monolaurate, polymerized glycol dilaurate, "Tween 20," "Mul-Si-Mo," and "Triton NE." A method is referred to for use of soap as emulsifier. F. A. Morton, Proc. New Jersey Mosquito Exterm. Assoc. 33, 69-71.

◆

### Mildew-Proofing Fabrics

For mildew - proofing aircraft fabrics a naphthenate salt of copper, zinc, or mercury is incorporated in a nitrocellulose or a cellulose acetate butyrate dope and applied to the fabric. Roxalin Flexible Finishes, Inc. British Patent No. 572,165.

◆

### Disinfectant Inactivation

Certain changes are proposed in the methods for evaluating disinfectants. The application of antidotes or neutralizers of disinfectant action, cannot be incorporated in a standard method because efficient, quickly reacting antidotes are not known for all disinfectants.

Two modes of action must be distinguished with antidotes: (1) They may merely remove the excess disinfectant from the broth and cell surface the way charcoal does with phenol or cationic detergents, or (2) they may diffuse into the cell and reverse the reaction between disinfectant and cell content, the way hydrogen sul-

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fide does with mercuric chloride. In the latter case, the cells are truly revived and this revival may take place a day or two after the poisoning. In the former case, the antidote merely prevents the fatal reaction from taking place, but does not reverse the reaction where it already has occurred. These antidotes are inefficient unless applied very soon after poisoning.

Although it is not intentional that media used in standard methods neutralize disinfectants, the organic matter of the broth does react with heavy metals, chlorine, iodine, and cationic detergents, and thus affects their phenol coefficients greatly. It is doubtful that a synthetic medium can be found that would not react with some of the disinfectants. O. Rahn, *J. Am. Pharm. Assoc., Sci. Ed. 36*, 134-8 (1947).

## DDT Sprays Control Malaria

To determine the duration of toxicity for mosquitoes of several DDT residual sprays, 72 houses in an area in the southern U. S. were sprayed with 4 formulas of DDT at the beginning of the malaria season, (about June 1) and were inspected at six different periods until October 1st. Twenty-five unsprayed houses in the same area were inspected at the same time. During the malaria season, the once-sprayed houses harbored significantly fewer mosquitoes than the unsprayed houses. Little difference was found in the duration of toxicity of the 4 formulas of DDT except for the formula used in the houses in group C, which was statistically less effective 14 weeks after spraying. The four formulas were as below.

"Carbowax 400" is a product of Union Carbon & Carbide, PD544C a product of Socony Oil Company. Water was added so that the applied spray contained about 5 per cent of DDT. F. L. Knowles and C. S. Smith, U. S. Pub. Health Repts. *61*, 1806-10.

| *Ingredients* | *Formula A Parts* | *Formula B Parts* | *Formula C* | *Formula D Parts* |
|---|---|---|---|---|
| DDT | 1 | 1 | 3.5 lb. | 1 |
| Xylene | 3 | 3 | 10.5 lb. | 1 |
| Triton X 100 | 0.25 | 1.25 | 0.9 lb. | 0.5 |
| Carbowax 400 | — | 0.35 | — | — |
| Paint | — | — | 20 gal. | — |
| PD544C | — | — | — | 4 |
| Water | 17 | 18 | — | 16.5 |

## Evaluating Disinfectants

A widespread dissatisfaction exists with the standard of reproducibility attained with the existing disinfectant tests for evaluation. This lack is inherent in any 100 per cent mortality test. The trend is now toward specificity.

Cultures of the test organism, *B. typhosus*, are prepared as in the F.D.A. method, and 5 cc. are placed in each reaction tube. Prepare 10 dilutions of the disinfectant so that each is 10 per cent less than the preceding. Add 5 cc. of the given dilution to a tube of the culture. After exactly 10 minutes in a water bath at 20° C., withdraw 0.5 cc. of the mixture and plant in 50 cc. of culture medium. Make the mixtures of the series of dilutions at appropriate time intervals as with the phenol coefficient. Incubate the subcultures exactly 5 hours and determine the density of growth with a photoelectric nephelometer.

To determine the relative efficiencies of disinfectants, prepare graphs in which the experimentally determined photometric balances are plotted against the corresponding dilutions of the disinfectant. Determine the ratio by comparing means of the three dilutions of the unknown which would have produced a balanced circuit with the photometer adjusted to give readings of 25, 50, and 75, and the corresponding mean for the control. N. V. Needham, *J. Hyg. 45*, 1-11 (1947).

## Furniture Polish

Oil-emulsion polishes are still popular because they are easy to apply and fairly satisfactory as to results. Superior to some others of this type is an acid emulsion containing butter of antimony, antimony trichloride. The antimony oxychloride which forms as a bulky precipitate, has a stabilizing effect on the emulsion. Precise balancing of ingredients and careful control of processing is essential. When properly prepared, such an oil emulsion is capable of giving a deeper and more permanent luster.

However, for real permanence of luster, wax polishes are preferable. Their drawback is that they require more work in rubbing up. When worked into the surface of the finish, the wax polish leaves a less greasy film than the oil type.

During the past few years many new chemicals have been introduced suitable for incorporating into furniture polish. Yet progress in formulation has not kept pace with these developments. It should be quite possible to prepare polishes today with properties superior to the conventional products of the past. D. Schoenholz, *Chem. Industries 61*, 228-9 (1947).

## Derris Evaluation

One gram of finely ground derris root is refluxed with 30 ml. of acetone for two hours, made up to volume with acetone, filtered, and 0.5 ml. of the filtrate evaporated in a test tube. A standard transmission curve is prepared from pure rotenone. Eight to 80 gamma of rotenone in acetone solution is transferred to a test tube with a ground-glass stopper, evaporated in a boiling water bath, and 5 ml. of a solution of 100 mg. of sodium nitrite in 1,000 ml. of concentrated sulfuric acid is added with shaking. The solution is kept in the dark for a half hour and then read in a photoelectric colorimeter with a copper sulfate filter. Cuvettes of 5 mm. are used. T. M. Meyer and A. Rachmad, *Rec. trav. chim.* 66 312-6 (1947); through *Chem. Abs.*

## Toxicity of DDT Isomers

The *p,p'*-DDT isomer is several times as toxic as the *o,p'*-DDT isomer to both goldfish and mosquito larvae. The methoxy analogue equals DDT in toxicity to fish, but is less toxic to mosquito larvae. On the other hand, the DDD analogue ranks about as high as DDT in toxicity to mosquito larvae, but appears to be less toxic to goldfish. J. M. Ginsburg. *Science 105*, 233-4 (1947).

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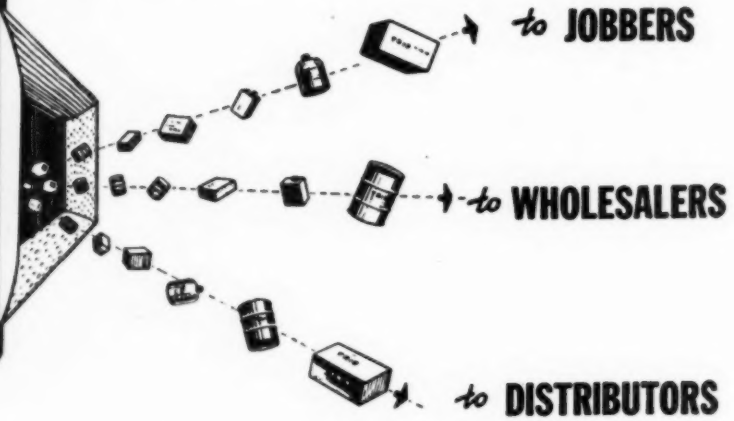


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## Perspiration on Textiles

Products which are nontoxic but high in bactericidal and fungicidal power have been developed for application to textiles. Fabrics so treated may be washed many times without loss of germicidal power. This treatment prevents decomposition of perspiration on a garment and so prevents color change and loss of tensile strength which so frequently accompany perspiration stains. Some of these agents are effective against athletes' foot organisms.

Tests made with discs of treated fabric (the agent used is not disclosed) showed germicidal efficiency after washing, as indicated in the table below.

The results show that the treated fabrics inhibited the growth of the three organisms in varying degrees; the larger the zone of inhibition as reported in millimiters across, the greater the germicidal value. The results were interpreted as showing fair bacteriostatic value for a zone of inhibition of 1-3 mm., up to excellent for a zone over 9 mm.; and a fair fungicidal value for a zone of inhibition of 1-6 mm., up to excellent for a zone over 12 mm.

In addition to the above studies, treatment of perspiration stains is given: For fresh stains which are still acid, dampen the spot with water and hold for a few minutes over the fumes from a bottle of ammonia. A 1:1 solution of ammonia can also be applied directly on cottons and other materials not spotted by water.

If the stain is old, bacterial decomposition may already have occurred, making the perspiration alkaline. In that case sponge with acetic acid or vinegar. This may restore the original color of the fabric if the stain is not too old.

The older the stain, the greater the damage. Very old stains can not be removed any more than tensile strength can be brought back to normal. Fabrics which have been damaged by perspiration should be treated with a semipermanent germicide to prevent further bacterial attack and loss in color and tensile strength. L. C. Barail, *Rayon Textile Mo. 28*, No. 2, 83-7 (1947).

Germicidal Values with Impregnated Acetate Rayon

| | Zone of Inhibition in mm. against *Staphylococcus aureus* | *Escherichia coli* | *Trichophyton gypseum* |
|---|---|---|---|
| Before Washing | 7.0 | 10.0 | 11.0 |
| After 10 Washings | 6.0 | 8.0 | 8.5 |
| After 20 Washings | 5.5 | 6.5 | 5.0 |
| After 30 Washings | 5.0 | 5.0 | 1.5 |
| After 40 Washings | 4.0 | 4.0 | 0.0 |
| **Germicidal Values with Impregnated Jersey tricot** | | | |
| Before Washing | 7.0 | 10.0 | 11.5 |
| After 10 Washings | 6.5 | 9.0 | 9.5 |
| After 20 Washings | 6.0 | 7.0 | 5.5 |
| After 30 Washings | 5.0 | 5.5 | 3.0 |
| After 40 Washings | 4.0 | 4.5 | 0.0 |

## Fungicidal Effectiveness

Under tropical conditions, tri-, tetra, and pentachlorophenols were strongly fungistatic, and *para*-nitrophenol and dinitro-*orthocresol* were slightly less effective. The phenols were more active at pH 4.7-4.8 than at pH 7.0 and the toxicity increased with the number of chlorine atoms or nitro groups. It is suggested that these compounds react with groups in the cell interior and are therefore more effective at a pH which reduces their ionization and enables them to penetrate the cell wall. Phenyl mercuric acetate was the most toxic compound tested, especially at pH 4.7; this suggests that these molecules do not enter the protoplasm but react with surface groups. Salicylanilide was inactive when precipitated at acid reaction and was decomposed by *Aspergillus flavus*. Copper sulfate was little toxic and DDT was nonfungistatic. In general, surface-growing organisms were less sensitive than fabric-destroying species. H. L. Jensen. *Proc. Linnean Soc.* N.S. Wales *71*, 119-29.

## Dog Flea Insecticides

Bornyl chloride is about as toxic to dog fleas as DDT but evaporates more rapidly. Dipentene dihydrochloride is about twice as effective as bornyl chloride or DDT. J. Guilhon, *Compt. rend. soc. biol. 141*, 246-8 (1947).

## Malaria Control

The effects of residual films from an emulsion containing 220 grams of commercial DDT, 586 grams of medium kerosene, 39 grams of bar soap, and 155 grams of water, and from a solution of hexachlorocyclohexane in medium kerosene or in an emulsion similar to the above but containing 7 per cent of the hexane, were tested against adult mosquitoes. A 75 per cent mortality of mosquitoes should eliminate malaria from the treated locality. DDT in emulsion was more effective than in kerosene but the difference with hexane was less marked. Application of heavy doses of DDT at long intervals was found to be more economical than of light doses at frequent intervals. C. R. Ribbands, *Bull. Entomol. Research 37*, 567-92 (1947).

## Comparison of Insecticides

Nine species of insects and two species of ticks were exposed to dry films of *p,p*-D'DT, *gamma* - benzene hexachloride, pyrethrum concentrate containing 20 per cent of pyrethrins, and rotenone, on filter paper for 2 hours at 30°C. Freshly prepared films of benzene hexachloride were the most toxic, then pyrethrins, DDT and finally rotenone. The relative toxicity of films of the undiluted insecticides differs considerably from that of films of the same insecticides applied in oil solution. In general, dry films were more toxic than oil films to the same insect. Very sparse toxic films of benzene hexachloride soon lose their toxicity apparently owing to evaporation. Addition of an irritant to insecticides used for killing crawling insects such as bedbugs is indicated. J. R. Busvine and S. Barnes, *Bull. Entomol. Research 38*, 81-90 (1947).

## Moth and Pest Control

A composition useful for protecting textile material from moths and also for protecting growing plants from insects, contains as an active ingredient a 2-thiazolinyl sulfide in admixture with pulverulent or liquid diluents, or insect bait material. E. I. du Pont de Nemours & Co., A. H. Goddin and N. E. Searle. British Patent No. 575,004.

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# Eastern NSSA Meets in New York

OVER 250 members and guests attended the Second Annual Eastern Regional Conference of the National Sanitary Supply Association held at the Park Central Hotel, New York, December 4 and 5. Industry problems confronting manufacturers and distributors were the principal themes of discussion.

Dr. Bernard R. Freudenthal, of The Chemical Service Company of Baltimore, and Chairman of the Technical Division of The Potash Soap Association, spoke on "Evaluating Maintenance Soaps on a Quality Basis." During the course of his talk, Dr. Freudenthal mentioned the need for more merchandising and intelligent promotion on the part of both manufacturers and distributors. Speaking about soaps and cleaners, he stated that sales appeal should not rest solely on qualities leading to the initial sale, but should rest on characteristics that result in repeat orders. A cleaner, he went on, should be designed for a specific purpose and should be sold for this purpose only. As an example, he pointed out, that a buyer should not be educated by a salesman to believe that a cleaner can be used to remove oil from a garage floor and still be used on a fine tile floor.

Dr. Freudenthal also mentioned that physical eye-appeal characteristics of maintenance soaps are relatively unimportant. The product should be evaluated on a few simple points such as clarity and the psychologically important sudsing qualities. Ability to do a job as opposed to physical characteristics is the criterion of a good cleaner, he concluded.

Dr. H. H. Linn, Professor of Teachers College, Columbia University, drew on his 30 years experience in purchasing sanitary supplies in discussing "Floor Care and Maintenance from the Consumers Point of View." Dr. Linn, who teaches a course for institutional building supervisors, stressed the importance of the purchaser knowing his product. He counseled that the sanitary supply salesman should deal with the purchaser as a client and not as a victim. As an example, he called to mind the type of supplier who promotes the price of his product as unchanged when in reality the concentration of active ingredients has been cut down.

Discussing the subject of research, Dr. Linn said that firms doing scientific research should be commended and they should be rewarded with a reasonable profit to cover the cost of developing a product. In concluding his talk, he stated "Buyers as a rule are cynics and like product claims to stop at bare statements of facts and not add anything superfluous."

W. Brannauer, Director of Sales, Lily Tulip Cup Co., spoke on the "Basic Principles of Selling." He stressed the importance of salesmen knowing their product, knowing their prospects and knowing themselves. During the course of his talk, he touched on the problem of adequate training of sales personnel, mentioning that sales are the core of the country's economy.

Leo J. Kelly, executive vice president of the National Sanitary Supply Association, addressed the gathering on the need for increased membership and mentioned the prospective advertising program of the association. In his report, Mr. Kelly spoke of the association's plans for setting up a code of minimum standards for the industry. "There is a great deal of government regulation now and there will be an even greater amount in the future. Trade rules will become a large factor in influencing future government policies," Mr. Kelly stated.

Owing to time limitations, the talk on "The Proper Use of Liquid Hand Soap" scheduled to be presented by Martin Peters, Moore Bros. Co., New York, was cancelled.

The second day's session opened with a forum conducted by the janitor supply houses of New York City. Lester Brown, I. Edward Brown Co., acted as moderator. Among the members contributing to the forum were George Siegel, C.M.C. Laboratories, and Jess Keppler of Keppler Bros. Co. A question and answer period followed the forum.

W. G. Reed, chief, Insecticide Division, U. S. Department of Agriculture, Washington, D. C., read The New Federal Insecticide, Fungicide

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and Rodenticide Act and elaborated on how the act affects manufacturers and distributors in a question and answer period that followed.

During the second day's luncheon, Jess Keppler talked on "The Janitor Supply Business and Its Relationship to Crime."

Program—Jess Keppler, chairman, entertainment and dinner committee; Jack Gantz, Empire Brush Works, Inc., general chairman; Eli Bennson, Majestic Can Co., registration committee; Jack Kahn, Windsor Wax Co., program committee; Martin Peters, publicity; Lester Brown, hospitality and attendance committee.

## West Coast N.S.S.A. Meeting

The program of the second annual Western Regional Conference of the National Sanitary Supply Association, held Nov. 12-13 at the Hollywood (Calif.) Roosevelt Hotel, was about evenly divided between discussions of policies affecting sales and management and products. L. D. McLean of L. D. McLean & Co. was general chairman. Speakers included Leo J. Kelly, executive vice-president of the N.S.S.A. and Jules Lovinger, N.S.S.A. president. On the policy phase of the program, selection and training of salesmen, business costs, human relations in sales management and present and future trends in the industry were discussed. Synthetic detergents, chemical sanitation, floor care and insecticides and disinfectants were topics of talks at the product level.

## Mrs. C. R. Lichtenberg Dies

Mrs. C. R. Lichtenberg, wife of C. R. Lichtenberg, president of Chicago Sanitary Products Co., manufacturers of soaps and sanitary chemicals, died in Chicago Nov. 20.

## USDA Fats-Oils Meeting

Representatives of the fats and oils industry held a second meeting Nov. 24th, at the call of George Prichard, Production Marketing Administration, Department of Agriculture, Washington, to discuss export allocations and the fats and oils supply situation in general.

Although no specific amount was decided on for first quarter, 1948, export allocation of fats and oils, it is understood that the quantities of fat available for export in the period would be substantially less than the quantity allocated for export in the fourth quarter of this year.

It is reported that a transcript of the meeting will be made available at a later date.

Among other points discussed and listed were: (1) Fats and oils estimates made on Aug. 25 were in error by some 300 million pounds. At that meeting production was estimated at 100 million pounds less than it actually was, and domestic disappearance (of fats and oils) was figured to be 200 million pounds more than was actually the case. (2) Last August, the Government and industry agreed that fat supplies for the following few months were ample and that increased exports would be of great benefit in relieving prospective surpluses. (3) In the opinion of Mr. Prichard, probably there will be no stockpiling of fats and oils for quite some time because of current stringencies of these materials. At the present time there is strategic stock piling of fats and oils for quite some time because of current stringencies of these materials. At the present time there is strategic stock piling under the direction of the Army and Navy Munitions Board of such oils as, castor, tung, rapeseed, sperm, coconut and palm.

It was also learned at the meeting that there remained unshipped, as of Oct. 1, 81.6 million pounds of inedible and edible fats.

## Archer-Daniels Elects

Archer - Daniels - Midland Co., Minneapolis, elected Samuel Mairs chairman of the board at a special meeting held on November 19th. T. L. Daniels, executive vice-president, was elected president. Samuel O. Sorenson, technical director, was named vice-president in charge of research. Mr. Daniels rejoined Archer-Daniels-Midland in 1929 after a period of service in the U. S. Department of State. He was elected a director of the company the same year, and a vice-president in 1933. In 1942 Mr. Daniels served in Washington as director of fats and oils with the WPB and later was in charge of the fats and oils division of the War Food Administration, USDA. He rejoined the company in 1943 and was elected an executive vice-president in 1946.

## Allen of Mathieson Dies

Edwin M. Allen, 75, retired president and chairman of the board of Mathieson Alkali Works, Inc., New York, died at his home at Rye, N. Y., Nov. 2. A graduate of Purdue University, he became president of Mathieson in 1919, retiring in 1943.

## Market Research Meetings

The schedule of meetings for the Chemical Market Research Association, Chicago, for the balance of the fiscal year was recently announced: December 10, 1947, New York, N. Y., Biltmore Hotel; January 22, 1948, Washington, D. C., Mayflower Hotel; March 11, 1948, New York, N. Y., Biltmore Hotel; April 22, 1948, Chicago, Ill., hotel to be announced; June 3, 1948, New York, N. Y., Biltmore Hotel.

The meeting on January 22, 1948 in Washington, D. C., will be sponsored by the statistics committee of the Chemical Market Research Association, and prominent Government officials are expected to address the group. The April 22, 1948 meeting is the same week as the American Chemical Society's spring meeting in Chicago. The June 3, 1948 meeting in New York City will be a business meeting.

## Offers New Valve

A new corrosion-resistant stainless steel valve is offered by Ohio Injector Company, Wadsworth, Ohio. The new valve is built expressly for the chemical, processing, food industries, etc., wherever the service calls for corrosion-resistant valves. The valve, manufactured in ½" to 2" sizes, is outside screw and yoke type, having bolted bonnet, tapered wedge, and screwed ends. It is so constructed that all materials in contact with the fluid are of low-carbon type 316 stainless steel. Packing and gaskets are corrosion-resistant. Yoke bushings, through which the stem rises, are renewable.

# *Greetings*

## *To The Members Of The N.A.I.D.M.*

The Buckingham Wax Company greets all members and friends of the N.A.I.D.M. and congratulates them on their accomplishments during the past year.

As you have expanded and improved your activities for the benefit of the industry, so has the Buckingham Wax Company expanded its research and development staff, as well as its production facilities, and is now able and ready to serve you more quickly and more efficiently than ever before. The expanded staff and production facilities continue under the direction of Dr. Vladimir Tuma.

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# TRADE NEWS . . .

### Red River Chemical Starts

The opening of Red River Chemical Co., a new firm handling sanitary supplies and equipment in Texarkana, Texas, was announced November 9, 1947. The plant is located at 2606 New Boston Road, and will handle both wholesale and retail business. The company plans to move at a later date to Seventeenth and Spruce Streets. Charles F. Moser is president and general manager.

### NSSA Moves Office

The National Sanitary Supply Association moved its Chicago headquarters on Nov. 1 across the hall from the former location on the 12th floor at 139 N. Clark St. Six rooms instead of the former three are now in use, making possible the addition of two new employees to the staff and otherwise improving efficiency of operations.

### Koppers Executive Dies

Robert C. Wickersham, 52, an executive of Koppers Co., Pittsburgh, and a former manager of the company's White Tar Department at Kearny, N. J., was found shot to death in his office in Pittsburgh Nov. 28. Mr. Wickersham, who was vice-president and assistant general manager, had been in ill health for some time.

### Form Varley & Sons

James Varley & Sons, Inc., will become the new company name of Baird & McGuire, Inc., of St. Louis, on January 1, 1948, according to an announcement by Jack C. Varley, vice-president. The company's policies, personnel and line of products will remain unchanged under the firm's new name. The change in designation was decided upon to avoid confusion in the trade resulting from there being two firms operating under the former name of the St. Louis firm. The two had no financial or plant connections.

The St. Louis company of James Varley & Sons, Inc., has recently completed a large modern laboratory and office building, in connection with an expanded program of research and development in the insecticide and allied fields. The St. Louis branch of Baird & McGuire was established 26 years ago by James Varley and Campbell Baird. In 1939, James Varley purchased the Baird interests in the Missouri corporation, and since then the company has been operated under the Varley ownership. Associated with James Varley, president, will continue to be his sons, Jack C., as vice-president and general manager, and James G., secretary.

JAMES VARLEY

### Socony Sells "Bug-a-Boo"

Purchase by Bug-a-Boo Products, Inc., a newly formed company of Dover, N. H., of manufacturing and distributing rights of the "Bug-a-Boo" line of insecticides from Socony-Vacuum Oil Co., New York, was announced by Socony Dec. 2. Socony will discontinue making many of its products which have been sold under the trade names "Tavern," "Bug-a-Boo" and "Sanilac." It will continue to make and market its "Tavern" candles and "Tavern Paraseal" wax. Products discontinued, effective Dec. 15, include household waxes, cleaners, insecticides for home and farm use and similar products for commercial use. In making known the sale of the "Bug-a-Boo" line and the discontinuation of the other lines, Socony stated that "the decision was influenced in large measure by the unprecedented demand, both civilian and Federal Government, for petroleum products such as gasoline, kerosene and heating oils, upon which the company is concentrating its manufacturing efforts."

### Verrault Joins Prentiss

R. J. Prentiss & Co., New York, have announced the addition of Howard Verrault to their sales staff. Mr. Verrault, formerly of Velsicol Corporation, Chicago, will operate in the New York territory.

The Prentiss company has also opened a new plant in Richmond, California, in charge of E. S. Heckathorn, formerly of the New York office. The new plant is equipped with machinery for milling and mixing DDT, BHC and other basic insecticides. It will market its products on the west coast.

### AIFA Meeting Plans

The Agricultural Insecticide & Fungicide Association has announced that its annual spring meeting will be held in February this year rather than at the customary time in late April. The meeting will be held in Washington, D. C., rather than at Rye, New York, the usual location for the spring meeting. The advance in date of the meeting was made so that the Association may have an opportunity to perfect its program for increasing food production during the approaching crop year through most effective use of insecticides, fungicides, weed killers, etc.

### PCO Course at Rutgers

A short course in elementary chemistry for pest control operators will be given at Rutgers University Jan. 19-21 and Jan. 26-29, inclusive, under the sponsorship of the New Jersey Pest Control Association, it was announced recently by the group. Installation of officers of the New Jersey Association was held at the annual dinner of the group on Dec. 11, in Newark, N. J.

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## O-Cedar Elects Barnes

George Barnes, formerly executive vice-president and general manager of O-Cedar Corp., Chicago, was elected president at the company's board of directors' meeting early in November.

Mr. Barnes later announced the appointment of P. K. O'Connor as vice-president in charge of factory operations and W. J. Luedke as vice-president in charge of advertising and sales promotion.

## West Moves to New Plant

West Disinfecting Co., New York, took possession of their newly-built Chicago plant Oct. 30th, the occasion being marked by a two-day sales conference attended by executives from Long Island City, N. Y., the Chicago management and 40 field men from territory served from Chicago. Among those present were M. M. Marcuse, chairman of the board, James Marcuse, president, John Marcuse, vice-president, Leonard Oppenheimer, secretary, Alfred Kirsch, treasurer, S. S. Ross, assistant treasurer, John Manly, general sales manager, and Wm. Flatow, Jr., advertising manager. Glen A. Buerkl, Chicago manager, supervised local arrangements for the meeting, which was concluded with a dinner on the final evening.

## Offers Sanitizer-Detergent

A new sanitizer and detergent "Rodacide," claimed to combine the germicidal and fungicidal properties of a quaternary ammonium compound with the detergency of a compatible non-ionic type synthetic detergent, was announced in November by Fairfield Laboratories, Inc., Plainfield, N. J. The germicide used, cetyl dimethyl ethyl ammonium bromide, has a phenol coefficient of 275-300 against *S. aureus* and 225-250 *against E. typhosa,* based on 100 per cent anhydrous material. The product is said to be useful particularly in two- and three-tank dishwashing systems and for general cleaning of refrigerators, toilet areas, walls, floors, and food storage areas. It is also recommended as a liquid hand soap for use in public buildings. It is claimed that no rinsing or wiping is necessary when the product is used on utensils, dishes, glassware or silverware.

## MGK Advances Torpin

McLaughlin Gormley King Co., Minneapolis, announced, November 17, the election of Paul D. Torpin as

PAUL D. TORPIN

vice-president and member of the board of directors. Mr. Torpin, recently appointed sales maanger of the company, has been a member of the sales staff for the past ten years and had devoted his time principally to agricultural chemicals.

## Glyco Offers New Wax

A new wax which has the property of holding fabrics without adhering to them has been developed by Glyco Products Co., Brooklyn. The new product, trade marked "Flexo Wax C Light," will find its main application in the screen printing of textiles.

## Johnson Appoints Kidd

S. C. Johnson & Son, Inc., Racine, Wis., has announced appointment of Wm. C. Kidd as accounting manager.

## Pyrethrum Price Lowered

The price of Kenya pyrethrum flowers was lowered approximately 20 per cent in mid-August by the Kenya Farmers' Association, Nakuru, Kenya, according to George E. Nixon, president, Greene Trading Co., New York, who recently returned from a visit to the Kenya Colony in East Africa.

## Silverman Joins Buck. Wax

Irving Wexler, president of Buckingham Wax Co. announces that the company's research and development activities on its line of waxes, polishes, and soaps are being expanded under the direction of Dr. Vladimir Tuma, Chief Chemist. The latest addition to the Buckingham technical staff is Ralph L. Silverman, a graduate of Indiana University and a former flight officer of the Army Air Corps. Mr. Silverman joined the staff Nov. 1.

## Campbell Baird Honored

In an article about the company's 35 years of manufacturing disinfectants and germicides, "Cheminotes," house organ of Baird & McGuire, Inc., Holbrook, Mass., pays tribute to the late C. Campbell Baird, who with James H. McGuire founded the company in 1010. The article takes the company's small beginning in an outlying district of Boston to its present development on a nation-wide scale. A wide line of products, is illustrated, and plant shipping facilities, export office and laboratory operations are discussed.

## Larger Quarters for Edco

Edco Corp., manufacturer of industrial and greenhouse aerosol bombs, has consolidated its operational, research and customer service facilities in a move to new and larger quarters on Childs Road, Elkton, Md. The former Edco plant was at Newark, Del. The new plant will enable the company to increase production and speed up deliveries at least 75 per cent, it is claimed. Innis, Speiden & Co., New York, are exclusive distributors for Edco aerosol bombs for greenhouse use.

## Bander to New Post

I. H. Bander, vice-president in charge of drug and sundry sales, McKesson & Robbins, Inc., has been appointed vice-president in charge of coordination of drug sales and buying activities, a new post in the organization. Charles T. Lipscomb, Jr., formerly vice-president and general manager, has become vice-president in charge of drug sales.

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## Penick Acquires NYQ

S. B. Penick & Co., New York, recently completed arrangements to acquire the New York Quinine & Chemical Works, Inc., New York, manufacturer and distributor of a broad line of medicinal raw materials. The New York Quinine & Chemical Works was established in 1885 and has maintained headquarters and manufacturing plants in Brooklyn and a branch house in St. Louis. Present plans call for continuation of the New York Quinine & Chemical Works' business along its established lines. The new acquisition, however, will provide the Penick company with a wider line of basic materials for the pharmaceutical, wholesale drug and allied industries in this country and in the export field.

## Chlordane Used on Dogs

A report of favorable results obtained with Chlordane insect toxicant in the treatment of flea and tick infested dogs at the City of Denver Dog Pound was recently released by Julius Hyman & Co., Denver.

Seventeen dogs were dipped in a 0.5 per cent Chlordane water emulsion on July 12, 1947. In addition to the infested animals, the kennels were found to be heavily overrun with roaches. The floors and walls of the kennels were liberally sprayed with an application of the same emulsion. On the day following treatment, J. C. Smith, manager of the pound, reported the dogs in the kennels were free of fleas and ticks. Some roaches were observed three or four days following spraying, after which none were seen. On October 24, three months and 12 days after the treatment, examination of dogs and premises showed them to be completely free of infestation. No harmful effects were observed on the dogs.

## Gammexane Discussed

Production of Gammexane (hexachlorocylcohexane) from January to June, 1947, aggregated about 1,900,000 pounds, stated Dr. H. L. Haller, Bureau of Entomology and Plant Quarantine, USDA, at the November meeting of the North Jersey Section of the American Chemical Society. Dr. Haller explained the structural possibilities of the compound and stated that while the *gamma* isomer tops other forms in effectiveness, there is a potentiating effect of the *alpha* isomer upon the *gamma* form of the molecule.

E. F. HELFER

H. R. SHEPPERD

## Aerosol Co. Starts

A new private brand packer and contract filler of low pressure aerosols, the Connecticut Chemical Research Corp., Bridgeport, Conn., recently announced organization. The company's plant, located at the Bostwick and Railroad Ave. siding of the New York, New Haven and Hartford Railroad, has been especially designed for low pressure aerosols and other self-dispensing packaging services. Officers of the company are Lawrence Valenstein, president; H. R. Shepperd, vice-president in charge of research and contract sales; and E. F. Helfer, vice-president in charge of production and product engineering. Mr. Valenstein is also president of Gray Advertising Agency, New York. Mr. Shepherd was formerly assistant to the director of aerosol research at Bridgeport Brass Co., Bridgeport, and Mr. Helfer was formerly product and production engineer for the aerosol division of Bridgeport Brass and held the same position with the Gallowhur Chemical Co., New York.

## Market New Floor Wax

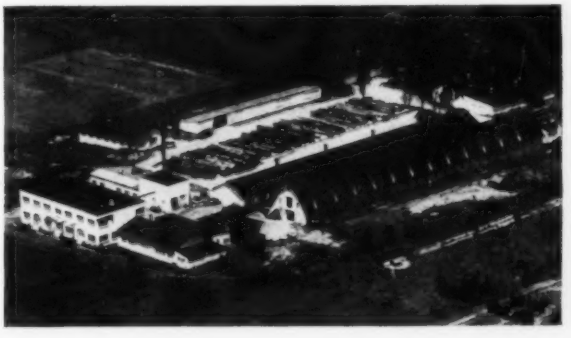
Twi-Laq Chemical Co., Brooklyn, N. Y., has announced the production of a new-type carnauba floor wax based on lower-cost pre-war carnauba formulas modified by some of the newer developments of the war period. Arthur N. Wels, president of the company, states that the new wax is the finest product which they have yet been enabled to manufacture by the drop in carnauba prices, and that laboratory tests show it to have a 300 per cent gloss increase, prime leveling quality, high water and traffic resistance, and low discoloration. It has a non-slip property of 0.47 coefficient of friction. The product is being manufactured in two grades, regular giving a light grey emulsion, and the other based on No. 1 carnauba giving a white emulsion.

## Heyden Making Para

Pilot plant production of ortho and paradichlorbenzene is now under way at the Memphis, Tenn., plant of Heyden Chemical Corp., it was announced Dec. 3. Full scale production is expected around the first of the year. The Memphis plant began operation about a year ago. Production of trichlorbenzene, used for protecting wood against insect destruction, is expected to begin in the near future. Heyden Chemical Corp. acquired the plant from the War Assets Administration in 1946, and it was put into production in November of that year.

## Wax Course in London

A short course of eight postgraduate lectures on the chemistry and technology of waxes will be given by L. Ivanovszky at Chelsea Polytechnic, London, starting January 16, 1948.



The new warehousing and shipping plant of P. R. Dreyer, Inc., at Whippany, N. J., has 100,000 sq. ft. of warehousing area. The Dreyer company is a well known supplier of perfume materials.

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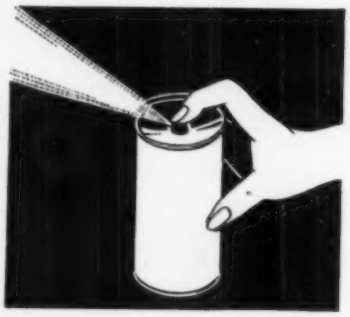

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### Reilly Chi. Plant Mgr. Dies

Thomas G. Gannon, manager of the Reilly Tar & Chemical Corp., Chicago plant, died in the Mayo Clinic, Rochester, Minn., Nov. 23. He had been with the firm for about 15 years, and had previously had his own business. Mr. Gannon, who was in his fifties, made his home in Evanston, Ill. He is survived by his wife, Blanche, and two sons, Jack and Robert.

### Putt to Head S. P. & R.

Earl B. Putt was elected president and managing director of Seil, Putt & Rusby, Inc., New York consulting and analytical chemists, at a recent meeting of the board of directors of the firm. Dr. Harvey A. Seil, co-founder of the firm, whose health during the past three or four years has restricted his active participation in the work of the firm, has retired and his interest has been acquired by Mr. Putt. At the same time it was announced, Alfred S. Moses was elected vice-president and general counsel. He has specialized for many years in the legal aspects of the Drug, Food and Cosmetic Act, as well as the decisions of the Federal Trade Commission.

### U. S. I. Absorbs D & O Unit

U. S. Industrial Chemicals, Inc., New York, announced Dec. 1 that the insecticide division of its subsidiary, Dodge & Olcott, Inc., will be transferred to U.S.I. and operated as an integral part of the parent company, effective Jan. 1. U.S.I.'s activities in the insecticide and insectifuge fields will continue to be directed by R. B. Stoddard, the announcement stated. J. A. Rodda will be in charge of sales and entomological research and development will continue under the direction of Dr. W. E. Dove, with the Fairfield (Md.) Entomological Laboratory, headed by L. C. McAllister, Jr.

The change in the U.S.I. organization was made, according to the announcement, to enable Dodge & Olcott to concentrate its activities exclusively in the essential oil, flavoring and perfume raw material fields. At the same time, it will place the sales and distribution facilities of U.S.I. immediately at the disposal of U. S. insecticide manufacturers. Dodge & Olcott, began their work in the insecticide field in 1939, and have been in the perfuming materials field for about 150 years.

Members of committee who planned the second western regional meeting of the National Sanitary Supply Association, Chicago, held November 12th and 13th, 1947, Roosevelt Hotel, Hollywood, Calif.: (Back Row—Left to Right) Art Newfield, Bobrick Mfg. Co., Los Angeles; Leo J. Kelly, NSSA executive vice-president; James Aye, L. D. McLean & Co., Los Angeles; Dave Levan, Empire Chemical Co., Los Angeles; Leo Mooberry, Best Maintenance Supply Co., Los Angeles. (Front Row) Jules Lovinger, Lovinger Disinfecting Co., Salt Lake City, president of NSSA; William White, Wilwite Associates, Oakland; Mrs. Ceale Damenstein, Royal Chemical & Disinfectant Co., Los Angeles; John Granato, Easterday Supply Co., Los Angeles; John Dodek, Bobrick Mfg. Co., Los Angeles.

### Givaudan Expansion

The opening of a new branch office in Boston and the expansion of its sales staff in New York was announced early this month by Givaudan-Delawanna, Inc., New York. The new Boston branch, located at 140 Federal St., to open around Jan. 1, will be managed by George H. Blake, Givaudan's New England representative who will continue to cover that territory. He has been with the company since 1926, having formerly sold in Chicago, St. Louis and New York.

Additions to the New York sales staff include Arthur C. Gogarty, who will handle the New York City and lower Connecticut accounts formerly handled by Mr. Blake. Mr. Gogarty has been with Givaudan since 1941. He spent three years in the Merchant Marine during the war, and has been working in an inside capacity in the sales department since rejoining the firm.

### Bulletin on L. P. Aerosols

A new bulletin on "Low Pressure Aerosols" has been published by the research department of Continental Can Co., New York. The 22-page bulletin (No. 14) traces the development of aerosols used for insecticidal purposes, discussing propellents, insecticides, formulations and filling procedure. A chart is included, relating vapor pressure and temperature data for a number of mixes of "Freon 11" and "Freon 12." A table is offered which shows chemical and physical properties of a number of materials which can be utilized as the propelling medium in insecticidal aerosol formulations. The bulletin concludes with a bibliography of 29 references.

### Prof. Ext. Xmas Party

The annual Christmas dinner of the Professional Exterminators' Association was held Dec. 12, at the Hotel Brewster, New York. This year's guest of honor and winner of PEA "Man of the Year" award was Dr. John B. Schmitt, research specialist in entomology of Rutgers University. The award, which was accompanied by a gift, was made in recognition of the service Dr. Schmitt has been to the industry.

### To Correct Dec. Issue

A few corrections are in order for the November issue. On page 151, the location of McLaughlin Gormley King Co. should of course read "Minneapolis." In the coverage of the N.A.I.D.M. December meeting, on page 157, the correct name of the speaker on the new insecticide act is "Sanford" Hill of E. I. duPont de Nemours & Co. On page 163, "Rodalon 10 per cent" is made by "Fairfield" Laboratories, Plainfield, N. J.

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### Announce Mixing Service

A mixing and compounding service for the sanitary chemicals trade was announced in November by Service Associates, Columbus, Ohio. With a complete stock of alkalies, soaps, synthetic detergents, perfumes and colors, the company has adequate facilities for quickly compounding dry formulations to specification. The company has containers available for packaging from 100 pounds to 400 pounds and can also supply commodities in carload lots. The compounding and mixing service is under the supervision of E. C. Corrigan and John Dawson, both of whom have had long experience with this type of work.

### Demonstrate Chlordane Use

A demonstration of the effectiveness of Chlordane against grasshoppers and crickets was recently carried out by A. R. Jameson, Velsicol Corp., Chicago, in connection with the visit of Ida Bailey Allen, lecturer and author, who is making a survey on food conservation. The insecticide was applied as a power-driven spray directly on the plants on a farm near Summit, Ill., and produced from 75 per cent to 90 per cent grasshopper kill within 72 hours.

### Joint Pest Control Meeting

A joint meeting of the New York Pest Control Association and the Professional Exterminators Association will be held at the Hotel Commodore, New York, Jan. 12. The purpose of the joint open meeting is the discussion of common industry problems, which it is felt can be dealt with more effectively by concerted action of both groups. The committee in charge of the program is composed of Kenneth Tompkins of Tompkins Exterminating Co., chairman, who represents the N. Y. Pest Control Association; Joseph Finneman of Pest Control Corp., and Charles Pomerantz of Bell Exterminating Co., the latter two men representing the Professional Exterminators Association.

Prior to the meeting there will be a short business meeting of the N. Y. Pest Control Association, at which time a report of the nominating committee, composed of E. N. Goldey, Bliss Exterminating Co.; Herbert Meyer, Fumex Sanitation Co.; Irving Drucker, Banex Exterminating Co., and Arthur L. Brody, Pioneer Exterminating Co., will be presented.

The November meeting of the N. Y. Pest Control Association was held Nov. 25, in the conference room of the offices of W. J. Parker, secretary-treasurer of the Association.

### DCAT Annual Dinner

The Drug, Chemical and Allied Trades Section, New York Board of Trade, Inc., has announced the date of their 22nd annual dinner as Thursday, March 11, 1948, Waldorf-Astoria Hotel, N. Y.

NEW MOBILE SPRAYER:—Pictured below is the new mobile sprayer put out by Universal Metal Products Co., Saranac, Mich. The unit consists of a steel, three and one-half gallon tank and positive action pump mounted on a steel truck with rubber tires and free-wheeling action. The sprayer is 40 inches high and named "Mobl-Spra."

### Edco Moves to Elkton, Md.

Edco Corp., announced late last month that it was moving its operational, research and customer service facilities from Newark, Del., to new and larger quarters on Childs Road, Elkton, Md. It is estimated the move will enable the company to speed up production and deliveries by at least 75 per cent. New equipment, research facilities and personnel have been added to the new plant to handle the increased production schedule.

### Offers Oxidized Waxes

The recently completed synthetic chemical plant of Pennotex Oil Corp., New York, is now in operation, manufacturing a line of waxes known as "Oxiwaxes." Products with a wide range of penetration and melting points will be available. High molecular weight wax type alcohols, ketones and acids will also be produced together with selected esters and salts thereof. In addition, a line of unusually high melting synthetic waxes ranging from about 160 C. to about 220 C. will also be manufactured. These products will be applicable to the floor and shoe polish industries as well as to manufacturers of lubricants, wetting agents and quaternary type disinfectants. Pilot plant tests are rapidly nearing completion on a variety of hard, glossy, synthetic waxes with oil and/or solvent retention properties claimed to be superior to carnauba and other natural waxes. The research staff will be available for technical consultation on all problems relating to products of the company. Overall operations will be under the direction of Earl M. Turner, president of Pennotex Oil Corp., and former sales manager for the wax division of Petrolite Corp., New York.

### Elizabeth Magnus Dies

Miss Elizabeth G. Magnus, elder sister of Percy, Joseph, and Robert Magnus, died November 16 at the Roosevelt Hospital, New York, after a prolonged illness. Miss Magnus was secretary of the Magnus, Mabee & Reynard, Inc. corporation. Funeral services were held at Fairchild's in Brooklyn on November 18. She was

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born in Atlanta, Ga., daughter of P. C. Magnus, Sr., who founded the MM&R business in 1895. For a number of years past, she had been a resident of the Hotel Bossert, Brooklyn, N. Y.

## Sindar New Givaudan Unit

The formation of Sindar Corp. as a separate company to take over the activities formerly carried on by the Industrial Products Division was announced early in December by Givaudan-Delawanna, Inc., New York. The new unit will handle the manufacture, promotion and sale of industrial aromatics, antiseptics, germicides, mildewcides, preservatives, stabilizers and other products produced for the textile, rubber, paint, paper, plastics and printing ink industries. Sindar Corp., which will have its headquarters at 330 W. 42nd St., New York, will handle two phenolic compounds, "G-4"" and "G-11." The latter has germicidal and antiseptic properties, while the former is recommended as a fungicide and preservative. Branch offices of the company will be maintained in Chicago, Los Angeles, Philadelphia, Cincinnati, Detroit, Seattle and Boston. Stuart Brothers, Ltd., of Montreal and Toronto, will represent Sindar in Canada.

## Ark. PCA Board Meets

The mid-winter conference of the board of directors of the Arkansas Pest Control Assn. was held Nov. 22 at the Hotel Marion, Little Rock, Ark. James P. Slater, city sanitation engineer of Little Rock, discussed prospects for firms engaged in control of pests and rodents in the Little Rock area. Paul H. Millar, chief inspector of the State Plant Board, discussed provisions of the new Federal insecticide, fungicide and rodenticide act, which requires labels on control poisons showing their contents. Another speaker, Myron Smith, of Memphis, Tennessee, described new pest control equipment. A meeting of the Arkansas Pest Control Assn. will be held at the City Health Department in Little Rock, Feb. 14. E. Allen Biddle of Blytheville is president and Carl L. Whitson of Little Rock is secretary of the association.

## New Insecticides

The results of tests on a number of wild plants by the Bureau of Entomology and Plant Quarantine, USDA, in search for new insecticides during the war are described in a paper titled, "Insecticidal Action of Heliopsis Longipes and Erigeron SPP," by E. R. McGovran, G. T. Bottger, W. A. Gersdorff, and J. H. Fales, division of control investigations. It was pointed out that the roots of *heliopsis longipes* contain a material highly toxic to house flies and that petroleum ether extracts of the plant are highly toxic to mosquitoes.

## Pesticide in Animal Food

Recent experiments by the USDA show that it is possible in some cases to kill blood-sucking insect pests by feeding certain insecticides to their hosts. Typhus-carrying lice and yellow fever-carrying mosquitoes have been killed in this way. Research entomologists of the department discovered ways of dosing rabbits so as to kill both the body louse and the *Aedes* mosquito. Laboratory animals treated at regular intervals with light doses of the effective chemicals survived and in some cases their blood remained poisonous to attacking insects for nearly two months. The Bureau of Entomology and Plant Quarantine emphasizes that the new findings are not yet in a form for immediate and practical application.

Among the chemicals tested, benzene hexachloride proved effective against the mosquito. The chemical, 2-pivalyl-1, 3-indandione, was by far the most effective against the louse, registering a 100 per cent kill when present in the blood in a dose equivalent to five millionths of the weight of the rabbit. Doses as slight as one-twentieth or one-fiftieth of this amount were fed daily, allowing the rabbits to gain weight and to build up in their blood a reserve of louse poison that killed part of the lice for up to two months after the dosing had ceased.

It was emphasized that tests indicated little or no relationship between the effectiveness of an insecticide as a contact poison and its effectiveness when taken internally. It was also found that the doses were specific, that is, a dose effective against the louse was not necessarily effective against the mosquito. Chemical compounds closely related showed widely varying effects both on the rabbits and on the parasites. This is regarded as an encouraging feature since it opens the field for exploration and possible development of new compounds that will be more deadly to parasites and less damaging to animals.

## Rat Dies From Fright

Death, as it does to all animal life, came recently to a rat that had entered the skunk house of Sparhawk Co., Sparkill, N. Y., it was learned in a recent letter to the editor of SOAP from Charles V. Sparhawk, head of the Sparhawk company. Mr. Sparhawk, in the interests of research had not attempted to destroy the animal, which had entered the cellar of the company's laboratory where a colony of about eight skunks are kept for study. The rat entered the cellar late in November and remained there until he was found dead about a week later. He refused to touch the food that had fallen from the raised skunk cages. Because he was unable to escape from the place he seemed frightfully agitated. This inability to escape apparently caused a grave shock to the highly developed nervous system of the rodent. Mr. Sparhawk attributed the rat's death to the presence of so many skunks in such a congested spot.

## ISCO Sales Conference

A three-day conference of the sales staff and department heads of Innis, Speiden & Co., New York, was held recently at the New York State Chamber of Commerce, the Downtown Athletic Club and the company's Jersey City, N. J., factory. P. L. Frost, sales manager, was chairman of the conference. Main emphasis of the conference was on new products now available or those expected to go into production shortly. All phases of sales and shipping were also touched on at the meeting. At the factory meeting, laboratory tests were run on such new Innis, Speiden products as "Algin,"

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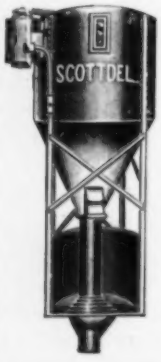


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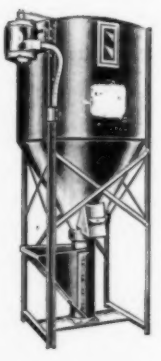

vegetable paste, vat gum, "Adsorbol," etc., before commercial application of the new products was discussed.

## Some Soap Duties Cut

Toilet soap, soap and soap powder, in addition to a long list of oils and fats and chemicals, were affected by tariff reductions for import into the United States under terms of an agreement negotiated at the Geneva Conference by the United Nations and made public late last month. The U. S. duty on toilet soap, valued at 20 cents or less per pound, was cut by 15 percent; toilet soap valued at more than 20 cents a pound was cut by 10 percent; soap and soap powder duties were cut 5 percent.

Duties on U. S. products imported into other countries were affected as follows: Benelux — bound duties on soaps and soapless detergents; China—granted moderate reductions on insecticides and disinfectants; Czechoslovakia — granted a moderate reduction on fine soaps; India — reduced duties on dentifrices and shaving soaps and creams by six percent; Lebanon — bound duty free insecticides, disinfectants and similar preparations and reduced the duty on tooth pastes, liquid and powder by 50 percent; Norway — bound free duty on insecticides and bound against increase certain cosmetics and dentifrices.

## Bush Retires from D. & O.

Dodge & Olcott, Inc., New York, has announced the retirement of Ralph W. Bush after 59 years of continuous service. Mr. Bush, who was secretary of the corporation, played a prominent role in the growth and development of Dodge & Olcott, Inc. He started the insecticide division of the company which has grown into one of the largest producers of insecticide raw materials in the country. Mr. Bush, always an advocate of product diversification, was instrumental in the establishment of the perfume department and flavor department. He was also in charge of production facilities at the Varick Street plant. Mr. Bush started working with Dodge & Olcott, Inc., June 27, 1888 immediately after he left school.

## Soap Sales About the Same

Little change is reported in the trend of soap sales during the third quarter of 1947. Reports to the Association of American Soap & Glycerine Producers, New York, from 70 member manufacturers, show deliveries in the third quarter ending September 30 amounting to 679,360,000 pounds of soaps other than liquid, plus 701,000 gallons of liquid soaps. These amounts were slightly greater than in the second quarter of the year when the figure for soaps other than liquid was 642,984,000 pounds, and that for liquid soaps was 680,000 pounds.

Deliveries of soaps other than liquid, in the nine months ending September 30, totalled 2,000,723,000 pounds compared with 1,710,471,000 pounds delivered during the corresponding period in 1946. Liquid soap deliveries reported for the nine months ending September 30 totalled 2,089,000 gallons compared with 2,399,000 gallons reported in the corresponding period in 1946. The value of all soaps delivered by the reporting manufacturers in the nine months ending September 30 was reported as $450,598,000 an increase of 73 per cent over the corresponding figure for 1946.

While the total pounds of soaps delivered by these manufacturers in the nine months ending September 30 was more than in the corresponding period in 1946, it was less than in any similar period back to 1938. With a population increase, during this period, of more than 10 per cent, it is apparent that the per capita availability of soap in the United States is considerably less than before the war.

## Chiris Moves Office

Antoine Chiris Co., New York, has moved its administrative and general offices to 119 West 57th Street. The laboratories and warehouse of the company will remain at 115 East 23rd Street, and will be more than doubled in size and capacity in order to handle production of many of the aromatic bases and raw materials formerly imported.

Leon A. Chiris, chairman of the various Chiris companies, is at present in the United States and was to return to Europe about the middle of December with F. E. Shoninger, president of Antoine Chiris Co., New York, and managing director of Antoine Chiris, Ltd., London. Mr. Shoninger will pay a visit to the Chiris factories in Grasse, France, and to the British company, returning to the United States at the end of January.

## Henissart Chiris V. P.

Albert V. Henissart has been elected vice-president in charge of sales of Antoine Chiris Co., New York, it was announced early this month by F. E. Shoninger, president. Mr. Henissart has been associated with Antoine Chiris for the past 20 years.

## Reid N. Y. Q. Vice-Pres.

Francis J. Reid, since 1942 sales manager, has been elected executive vice-president of New York Quinine and Chemical Works, Inc., Brooklyn, which was recently acquired by S. B. Penick & Co., New York, it was announced by Penick early in December. Mr. Reid joined the sales department of N. Y. Quinine in 1937.

## Seeks American Soap Job

A reader of *Soap & Sanitary Chemicals* from India has recently written to us indicating his desire to work as a beginner in some American soap plant. He advises that he has a B.S. from the University of Agra and is at present studying oil chemistry and technology at the Harcourt Butler Technological Institute, Cawnpore, India. He seeks a position as a paid or unpaid apprentice in an effort to gain first-hand experience with the manufacture of soaps in the United States.

If any American soap maker is interested in contacting him, we shall be glad to forward letters to him.

## New C. S. Board Chairman

Commercial Solvents Corp., New York, has announced the appointment of Maj. Theodore P. Walker as chairman of the board, and the election of Henry E. Perry as president of the corporation. Maj. Walker was formerly president, and was succeeded by Mr. Perry in that position.

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***Mistmaster* Ball Bearing Fan Type Sprayers have both the spread and the power to do a quick, thorough job. Driven by 1/3, 3/5, or 1 hp. motors, they spray insecticides for distances as far as 40 feet, penetrate into hard-to-reach places, and spray large areas quickly, completely.**

**Here is a sprayer that has more power than any other portable sprayer, yet is convenient and easy to handle, plugs into any electric outlet and can be used with both oil base and water base insecticides.**

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We announce development of new type soap colors

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They have good fastness to alkali, light, tin. ageing.

The following shades are already available

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*"... jus' when I's concentratin' on forgettin', Cuthbert"!*

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If it be in the field of soap products, detergents, household insecticides, disinfectants, floor waxes and allied chemical specialties where you do not want to give them a chance to forget you or your products, we recommend regular advertising in

**SOAP** *and Sanitary Chemicals*

254 WEST 31st STREET NEW YORK 1


## Tale Ends

OIL and fat allocations are just a matter of time! In Washington, they say it is not "will we have allocations" but *when* will we have them.

* * *

Brief strike in Detroit auto plant caused by invasion of roaches which crawled all over the place, including the workers. The workers walked out stating that recent application of insect spray had "activated" the roaches, driving them out of their haunts by the thousands and making work impossible. When the "activated" roaches finally kicked off, the workers returned to their jobs, and all was again serene *sans* roaches.

* * *

"Indications are that the soap trade has run out of all the ready one-syllable words for soapless detergents," says William Bloeth in the *N. Y. World-Telegram*. Soapers and their agencies, he states, are frantically searching for new one-syllable words to use. Just to start it off, we suggest "noap," meaning no soap. It has the advantage of rhyming with hope, rope, and dope as well as soap. Real zippy for singing commercials! Wonderful possibilities!

* * *

Bathtub ring! Bathrub ring!
I hate it just like everything.
So I avoid the use of soap
And wash my neck with good old
Noap!

* * *

A Chicago newspaper gossip columnist reports a mild mutiny among disabled war veterans at Hines Hospital in that city. The boys objected, it seems, to the government issue of Camay soap, well known as "the soap of beautiful women." "Their plea clicked," wrote the columnist. "Quick switch to Lifebuoy."

* * *

The household insecticide business is not dead, gentle reader, but merely in a coma from which it will arise in 1948 to greater heights than ever! Our authority for this startling news,—Nels Gothard of Sinclair Refining, retiring prez of NAIDM, in his annual address before that august body in Baltimore recently.